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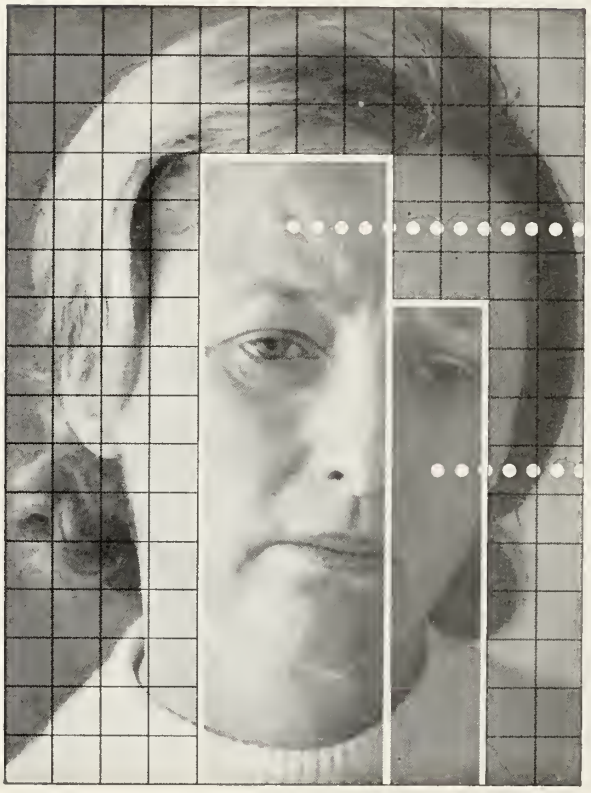
Rhode Island Medical Journal

January 1976 Vol. 59, No. 1

Happy New Year

Both often



Predominant psychoneurotic anxiety

Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequenc and/or severity of grand mal seizures ma require increased dosage of standard ant convulsant medication; abrupt withdrawa may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mus cle cramps, vomiting and sweating). Kee addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Nutley, New Jersey 07110

Rhode Island Medical Journal

JANUARY, 1976 VOLUME 59, No. 1

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RHODE ISLAND MEDICAL JOURNAL is owned and published monthly by the Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903. Single copies 50 cents — Subscription $5.00 per year (Members of the R. I. Medical Society, $2.00 Annually). Second Class postage at Providence, Rhode Island. Copyright, The Rhode Island Medical Society, 1975.

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CONTINUING MEDICAL EDUCATION CALENDAR

JANUARY

17 THE MANAGEMENT OF PANCREATITIS. Lester F. Williams, Jr., M.D., Professor of Surgery, Boston University Shool of Medicine; Chief, Gastrointestinal Section, Department of Surgery, University Hospital, Boston, Massachusetts. Rhode Island Hospital, George Building Auditorium, 10:00 A.M.

22 NON-HODGKIN'S LYMPHOMA, AN INTERDISCIPLINARY ONCOLOGICAL CONFERENCE. The program will be: "Cytomorphologic Aspects," Reginald G. Mason, M.D., Ph.D., and "Immunological Approach," Zbigniew A. Zawadski, M.D. The Memorial Hospital, Richardson I, Lecture Room, 12 Noon-1:30 P.M.

24 HERPESVIRUSES AND HUMAN CANCERS — A STATUS REPORT. George Miller, M.D., Associate Professor of Pediatrics and Epidemiology, Yale University School of Medicine, New Haven, Connecticut. Rhode Island Hospital, George Building Auditorium, 10:00 A.M.

28 CURRENT PROBLEMS IN THE UNDERSTANDING AND CONTROL OF LEUKEMIA. The program will be: "Evidence for the Role of Viruses in the Pathogenesis of Leukemia," Robert Gallo, M.D., Chief, Laboratory of Tumor Care Biology, National Cancer Institute; "Theory, Current Status, and Future Prospects of Immunotherapy in the Control of Disease," Brigid G. Leventhal, M.D., Head, Chemoimmune Therapy Section, National Cancer Institute; "Concepts of Chemotherapy and Their Application to the Treatment of Myelocytic Leukemia," Edward S. Anderson, M.D., Chief, Department of Medicine, Roswell Park Memorial Hospital, Buffalo; and "Questions Without Answers — A Look at the Human Side of Leukemia Management," Mrs. Eugenia Schweers, Parent Consultant, Division of Pediatric Oncology, Rhode Island Hospital. The Symposium will be held in George Auditorium, Rhode Island Hospital from 1:00-4:00 P.M. For information contact Doctor Edwin Forman, Rhode Island Hospital.

31 MANAGEMENT OF ABDOMINAL INJURIES. Francis C. Nance, M.D., Professor of Surgery and Physiology, Louisiana State University Medical Center, New Orleans, Louisiana. Rhode Island Hospital, George Building Auditorium, 10:00 A.M.

FEBRUARY

13 CLINICAL ACID-BASE PHYSIOLOGY AND PARENTERAL NUTRITION AND RENAL DISEASES. James C.M. Chan, M.D., Associate Professor, Department of Child Health and Development, George Washington School of Medicine, Washington, D. C. Kay Auditorium, Roger Williams General Hospital, 10:30 A.M.-12:00 P.M.

18 PERSPECTIVES IN GENETICS AND GENETIC COUNSELLING. Topics to be covered include: "Intra-Uterine Diagnosis," Henry L. Nadler, M.D., Given Research Professor, Northwestern University; "Screening of Inherited Metabolic Disorders," Charles R. Scriver, M.D., Professor of Pediatrics, Associate Professor of Genetics, McGill University; "Tay-Sachs Disease: Rhode Island's Screening Program," Daniel P. Perl, M.D., Assistant Professor of Pathology and Laboratory Medicine, Brown University; "Problems of Parents Whose Children Have Metabolic and Genetic Disorders," Siegfried M. Pueschel, M.D., Assistant Professor in Pediatrics, Brown University; and "Medical Implications of Chemical Mutagenesis," Marvin S. Legator, Ph.D., Professor of Genetics (Research), Brown University. The Providence Marriott, 8:30-5:00. Registration will be $25.00. For information call Mrs. Allen, 863-3337.

Rhode Island Medical Society Necrology---1975

CARL V. ANDERSON, M.D.

Doctor Carl V. Anderson, a practicing Warwick physician for more than 20 years, died unexpectedly on March 11, 1975. He was 60 years old.

Doctor Anderson had been on the staff of Kent County Hospital for more than 20 years. Previously he was on the staff of Roger Williams General Hospital in Providence. Doctor Anderson had been chief surgeon at Kent County Hospital.

Born in Sweden, he had been a resident of Warwick since 1954. He was a Korean War Veteran.

Doctor Anderson was a graduate of the University of Rhode Island and Jefferson University in Philadelphia in 1944. He served his internship at Rhode Island Hospital.

He was a diplomat of the American Board of Surgeons and a fellow on the American Board of College Surgeons, a member of the Rhode Island Chapter of the American Cancer Society, the Daland Cancer Society, Providence Surgical Society, Rhode Island Chapter of American College of Surgeons, and past president of the Kent County Medical Society. He was also a member of the Rhode Island Medical Society and the American Medical Association.

▲ ▲ ▲

GEORGE W. BELLANO, M.D.

Doctor George Bellano, a Providence physician for over 50 years, died on February 23, 1975. He was 76 years old.

Born in Providence, he graduated from Tufts University Medical School. He was on the staff at Rhode Island Hospital, Roger Williams General Hospital, and St. Joseph's Hospital.

He was an Army Veteran of World War I.

Doctor Bellano was a member of the Providence Italian-American Club, The Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association.

▲ ▲ ▲

NATHAN BOLOTOW, M.D.

Doctor Nathan Bolotow, a Providence physician, who specialized in ear, nose and throat medical practice died on October 31, 1975.

He was a trustee and vice president of the Jewish Home for the Aged, a member of the Board of directors of Jewish Family and Children's Service, and its president from 1955 to 1960. He also served on the board of directors and allocations committee of the Jewish Federation of Rhode Island and was chairman of its medical division.

Doctor Bolotow was cited three times for his work in behalf of emotionally disturbed children. After graduating from Tufts University Medical School in 1917, he served overseas as an Army medical officer in World War I. He had been an instructor in the Rhode Island and Memorial hospitals' schools of nursing, at the American Academy of Plastic Surgery, New York City, and in nasal plastic surgery at the American Academy of Otolaryngology. After his retirement, he served as consultant for most of the hospitals he was active in.

He was a member of the Providence Medical Association, American Medical Association, Rhode Island Medical Society, and the New England Otolaryngologic Society and its American Academy.

Doctor Bolotow was born in Providence on April 23, 1894.

▲ ▲ ▲

ALFRED A. CALDARONE, M.D.

Doctor Alfred A. Caldarone, a Providence physician for more than 30 years before his retirement in 1955, died on January 12, 1975. He was 86 years old.

Born in Providence, he was a graduate of LaSalle Academy and Harvard Medical School.

Doctor Caldarone served as a captain in the Army Medical Corps in France during World War I. He interned at Episcopal Hospital in Philadelphia, Massachusetts General Hospital in Boston, and St. Joseph's Hospital in Providence.

He was a member of the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association.

(Continued on page 5)

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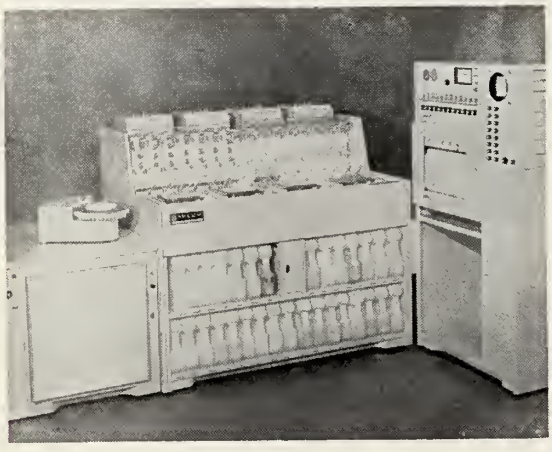

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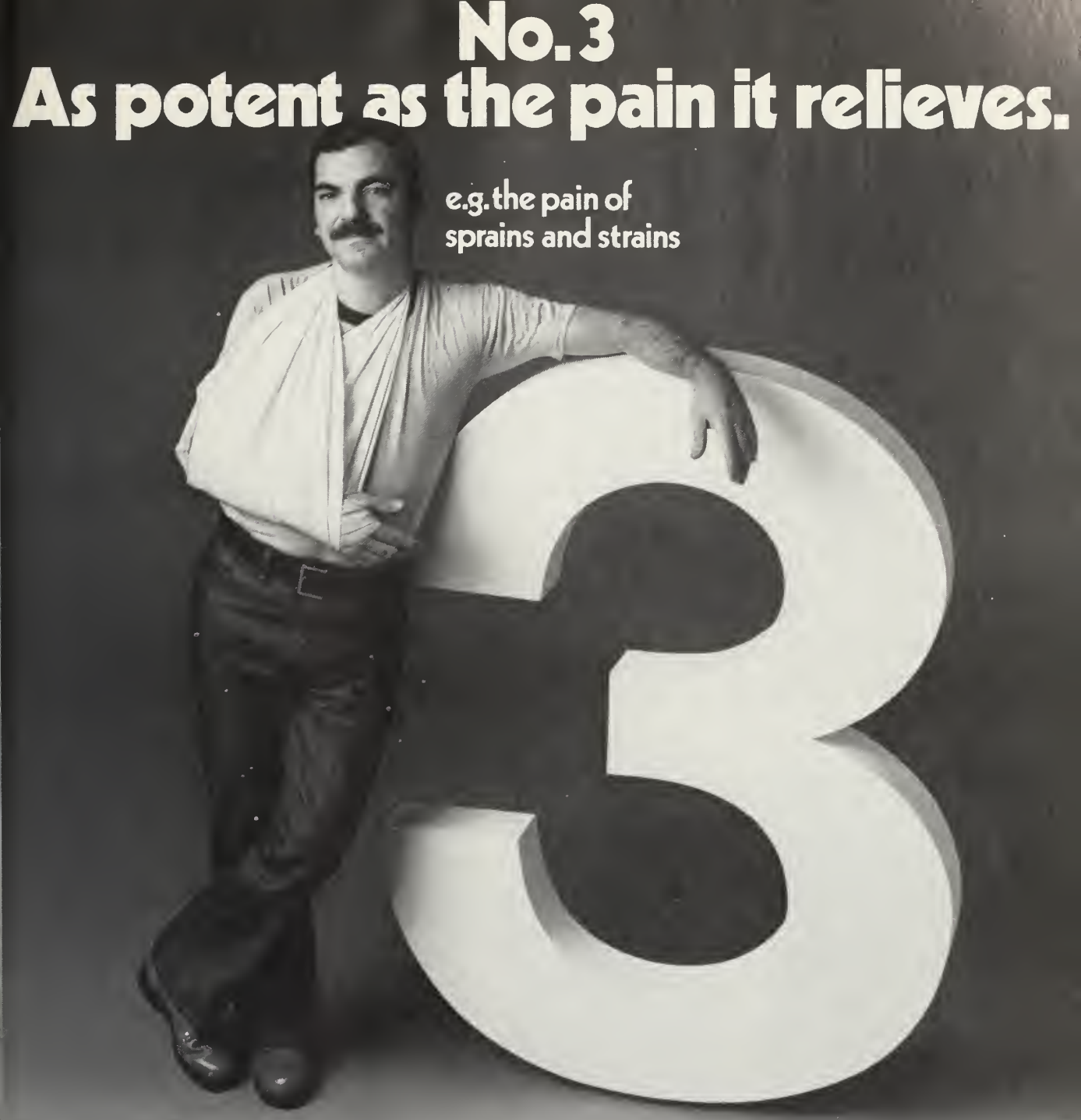

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Effectiveness across the spectrum of most common forms of insomnia

Awake too long, awake too often, awake too early...

These are the most common forms of insomnia, and may occur singly or in any combination. The night of troubled sleep depicted here comprises all three types. As the night progresses from left to right, each sleep stage is identifiable by its own shade of gray. Blue represents "Awake."

As you can see, this hypothetical "patient" takes well over an hour to fall asleep, awakens several times during the middle of the night and awakens too early in the morning.

Sleep Stages

- Awake
- REM
- Stage 1
- Stage 2
- Stage 3
- Stage 4

The insomnias most often occurring in young and older adults

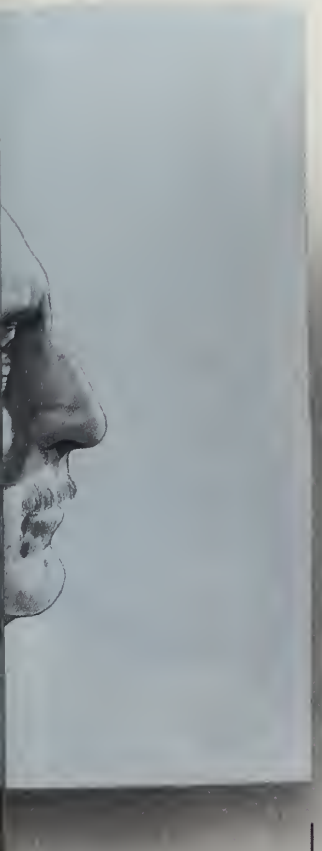
For patients with trouble falling asleep (common in young adult insomnia patients), Dalmane (flurazepam HCl) 30 mg provides sleep within 17 minutes, on average. For those with trouble staying asleep or sleeping long enough (common in those over 50), Dalmane offers increased total sleep time with fewer nocturnal awakenings. These clinical results were demonstrated in studies conducted in four geographically separated sleep research laboratories[1-4]

The relative safety of Dalmane (flurazepam HCl) is well documented

Dalmane (flurazepam HCl) is relatively safe and well tolerated; morning "hang-over" has been infrequent. The usual adult dosage is 30 mg; in elderly or debilitated patients, limit initial dosage to 15 mg to preclude over-sedation, dizziness or ataxia. Caution patients about possible combined effects with alcohol and other CNS depressants.

Broad-spectrum medication for the most common forms of insomnia

7 Hours



Awake too early

Dalmane®
(flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage (15 mg may suffice in some patients).
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

- ☐ induces sleep rapidly
- ☐ reduces nighttime awakenings
- ☐ lengthens total sleep time

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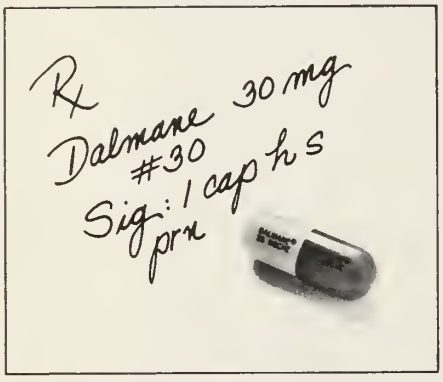
Please see following page for a summary of complete product information.

Broad-spectrum medication for the most common forms of insomnia

Dalmane®
(flurazepam HCl) Ⓒ IV



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- □ induces sleep within 17 minutes, on average
- □ reduces nighttime awakenings
- □ provides 7 to 8 hours sleep, on average, without repeating dosage

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum benefi effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES:

1. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971
2. Frost JD Jr: A system for automatically analyzing sleep. Scientific exhibit at the 24th Clinical Convention of the American Medical Association, Boston, Nov 29-Dec 2, 1970; and at the 42nd annual scientific meeting of the Aerospace Medica Association, Houston, Apr 26-29, 1971
3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ
4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

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NECROLOGY

(Continued from page 3)

THOMAS S. FLYNN, M.D.

Doctor Thomas S. Flynn, a Woonsocket physician for 59 years, died on February 10, 1975. He was 84 years old.

Born in Woonsocket, Doctor Flynn graduated from Woonsocket High School in 1909 and seven years later received his doctor of medicine degree from the University of Vermont Medical School.

He was on the staff at Woonsocket and Memorial Hospitals. He had also served as health officer of the City of Woonsocket.

During World War I he was commissioned a captain in the U. S. Army.

Doctor Flynn was a member of the Woonsocket Medical Association, The Rhode Island Medical Society, and the American Medical Association.

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AURAY FONTAINE, M.D.

Doctor Auray Fontaine, an active psychiatrist in the Woonsocket area for many years, died on June 30, 1975 at the age of 74. He was born in Canada on August 4, 1900.

He attended college in Montreal and grauated from the Montreal University Medical School in 1925.

Doctor Fontaine was on the staffs of the Woonsocket Hospital, Mercy Hospital, and Notre Dame Hospital.

He was a member of the American Medical Association, the Rhode Island Medical Society, and the Woonsocket Medical Society.

▲ ▲ ▲

FRANK D. FRATANTUONO, M.D.

Doctor Frank D. Fratantuono, a Providence physician and heart specialist, died November 8, 1975.

He was born in Providence on April 1, 1910. He graduated from Classical High School in 1928, from Tufts College in 1932, and from Tufts Medical School in 1935. He interned at Mercy Hospital in Springfield, Massachusetts. He also was a staff member of St. Joseph's, Our Lady of Fatima, and other hospitals in the Providence area.

Doctor Fratantuono was president of the Medical Society in 1961, director and vice president of the Briarcliffe Nursing Home in Johnston, and once ran as an unendorsed candidate for state senate. He began his practice in 1936 in Providence.

▲ ▲ ▲

LINLEY C. HAPP, M.D.

Doctor Linley C. Happ, a specialist in otorhinolaryngology for many years in the Providence area, died March 5, 1975 at the age of 76. He was born July 4, 1898.

He was associated with the Rhode Island, Charles V. Chapin, Pawtucket Memorial and Veterans Hospitals.

Doctor Happ graduated from Amherst in 1920 and attended medical school in Louisville.

He was a member of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association.

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HARRY HECKER, M.D.

Doctor Harry Hecker, a practicing Rhode Island physician since 1945, died on April 15, 1975. He was 65 years old.

Born in New York City, he was graduated from Cumberland High School, Tufts University, and Tufts Medical School. Doctor Hecker was on the staff of Pawtucket Memorial Hospital and the Miriam Hospital.

During World War II, Doctor Hecker served with the Army in the Aleutian Islands. He held the rank of captain.

He was a member and past president of the Pawtucket Medical Association, a member of the Rhode Island Medical Society, and a member of the American Medical Association.

▲ ▲ ▲

ALPHONSE W. LUPOLI, M.D.

Doctor Alphonse W. Lupoli, a practicing physician in Warwick for 36 years, retired in 1966. He died on September 30, 1975 in his home.

Born in Providence, December 9, 1903, Doctor Lupoli had been a resident of Warwick for 66 years.

He was graduated from Classical High School in 1920 and the University of Rhode Island.

▲ ▲ ▲

FRANK MacCARDELL, M.D.

Doctor Frank MacCardell a Barrington physician, died on Friday, November 28, 1975. He was born in Wilmington, Delaware, on October 3, 1896.

Doctor MacCardell was affiliated with Roger

(Continued on page 8)

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In addition to listing your name in the Yellow Pages as in the past, the New England Telephone Company is planning an additional listing by specialty beginning with the August 1976 edition of the Yellow Pages. This new listing will apply only to the Providence Yellow Pages edition at this time.

The Council at its meeting on January 12, 1976 reviewed this matter and concluded that it is an individual decision each physician must make, if he wishes to pay for the additional listing. The Council does not consider participation unethical.

The Telephone Company plans to contact physicians in mid-February.

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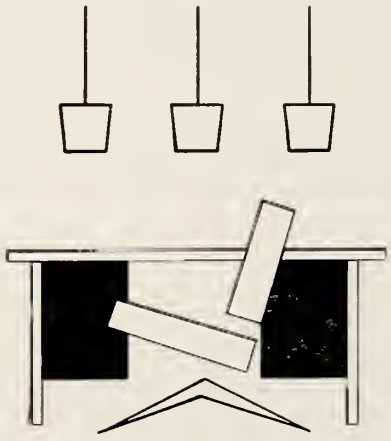

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MEDICAL BUREAU of the Providence Medical Association

NECROLOGY

(Contniued from page 5)

Williams Hospital as an otolaryngologist and facial plastic surgeon until 1970.

He graduated from the University of Delaware and was a fruit rancher until 1924, when he entered Hahnemann Medical School in Philadelphia. He graduated in 1928.

Doctor MacCardell was a member of the Rhode Island Country Club, American Medical Association, Rhode Island Medical Society, Centurion Club, American College of Allergists, and American College of Plastic Surgery. He was also an Army veteran of World War I.

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OMER H. MASSE, M.D.

Doctor Omer H. Masse, a Central Falls physician died on January 23, 1975. He was 81 years old.

Born in Fall River, Massachusetts, he attended Notre Dame University and Laval University Medical School. He was on active medical staff at the Memorial Hospital in Pawtucket and Notre Dame Hospital in Central Falls.

Doctor Masse was a member of the Pawtucket Medical Society, the Rhode Island Medical Society, and the American Medical Association.

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EMILIO J. MONTI, M.D.

Doctor Emilio J. Monti, a practicing physician in Providence for more than 46 years, died on February 15, 1975.

He has served as town physician and police surgeon in the town of Johnston for 24 years. He was on the staff of Our Lady of Fatima Unit of St. Joseph's Hospital, Roger Williams General Hospital, and St. Joseph's Hospital.

Born in Buenos Aires, Argentina, he came to this country 71 years ago. He graduated from LaSalle Academy, Providence College, and Tufts Medical School. He served his internships in Flushing Hospital, New York and Pawtucket Memorial Hospital.

He was a member of the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association.

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GERTRUDE MULLER, M.D.

Doctor Gertrude Muller, a pediatrician and psychiatrist who retired in 1957, died on Thursday, October 23, 1975 at Rhode Island Hospital.

She was a 1920 graduate of the University of Berlin, and practiced in Germany, Italy and England before coming to Providence.

Doctor Muller was affiliated with the American Medical Association and its Psychiatric Association and the Rhode Island Medical Society. From 1941 to 1947 she was on the staff of Emma Pendleton Bradley Home, East Providence.

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PAUL NEIBERG, M.D.

Doctor Paul Neiberg, a practicing psychiatrist in Providence and Pawtucket for the last 17 years, died January 10, 1975. He was 51 years old. Born in Riga Latvia, he was graduated from the University of Heidelberg Medical School in 1950 and came to the United States. He served his internship in Quincy City Hospital and received training in phychiatry at the Northampton State Hospital, Massachusetts.

Doctor Neiberg had been associated with Fuller Memorial Sanitarium in South Attleboro, Butler Hospital and Miriam Hospital in Providence, and Memorial Hospital in Pawtucket.

He was a member of the Pawtucket and Providence Medical Associations, the Rhode Island Medical Society, American Medical Association, the American Psychiatric Association, and the Rhode Island branch of that Association.

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WILLIAM NERONE, M.D.

Doctor William S. Nerone, a member of the surgical staffs of three Rhode Island hospitals died February 23, 1975. He was 63 years old.

Born in Bristol, he was a graduate of LaSalle Academy, Boston College, and the Georgetown University Medical School.

Doctor Nerone served in the Army Medical Corps during World War II and attained the rank of major.

He was a member of the surgical staffs of St. Joseph's, Our Lady of Fatima, and Roger Williams Hospitals. Doctor Nerone was a member of the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association.

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(Continued on page 9)

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NECROLOGY

(Continued from page 8)

MARIO A. NICOTRA, M.D.

Doctor Mario A. Nicotra, a Warwick physician, died on October 16, 1975 at his home.

He was born on January 26, 1916 in Rome, Italy. He was graduated from the University of Rome Medical School in 1941 and began his state service in 1953. He was a member of the American Medical Association, the American Psychiatric Association, and the Rhode Island and Kent County Medical Societies.

Doctor Nicotra, who worked as a psychiatrist for the state between 1953 and 1974, resigned as chief of psychiatric services at the IMH last year.

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VINCENT J. ODDO, SR., M.D.

Doctor Vincent J. Oddo, Sr., retired chief of surgery at St. Joseph's Hospital, died September 2, 1975, at his home.

Born in Palermo, Italy in 1891, he came to this country at age four. In 1916, he received his medical degree at the University of Maryland School of Medicine and served his internship at Mercy Hospital in Baltimore. In 1917 he moved to Providence and began his active practice here.

In 1918, he became associated with St. Joseph's Hospital in Providence and was appointed assistant urology surgeon. He was also associated with Roger Williams General and Miriam Hospitals as a surgeon and with Charles V. Chapin, Notre Dame, Westerly, and the state hospital as a consultant urologist.

Doctor Oddo was a state medical examiner from 1933 to 1936. He was a member of the American, Providence, Rhode Island and Malpighi Medical Associations, the American Society of Regional Anesthesiologists, and was a fellow of the American College of Surgeons.

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ALOIS SVAGAN, M.D.

Doctor Alois Svagan, a specialist in psychiatry, died on July 2, 1975. He was born in Germany, May 8, 1915.

After completing college and medical school in Ljubljana, Yugoslavia, Doctor Svagan interned at Miriam Hospital and was a resident at the Rhode Island Medical Center where he remained on the staff since 1964. He conducted a part time private practice in psychiatry as well.

Doctor Svagan was a member of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association.

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BENJAMIN F. TEFFT, M.D.

Doctor Benjamin Franklin Tefft, an active physician for 67 years in Coventry and West Warwick, died Tuesday, February 25, 1975 in a Warwick nursing home at the age of 99. He was born in Warwick on May 20, 1875.

Doctor Tefft was a former Kent County medical examiner and had been on the staffs of Rhode Island and Kent County Memorial Hospitals.

He graduated from the University of Maryland in 1905 and earned his medical degree at John Hopkins University in Baltimore.

Doctor Tefft was a past president of the Kent County and Rhode Island Medical Societies, and he was medical officer of the Kentish Guard of East Greenwich with the rank of colonel.

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HENRY E. UTTER, M.D.

Doctor Henry E. Utter, a Providence physician, died December 28, 1975. He was 92 years of age.

Doctor Utter was born in Westerly on April 9, 1883. He was educated is the Westerly schools and received his bachelor of arts degree in 1906 from Amherst College. He was graduated in 1910 as a doctor in medicine from the College of Physicians and Surgeons at Columbia University. He interned at Boston Floating Hospital and Rhode Island Hospital and completed his training at Babies Hospital in New York.

At various times, Doctor Utter served on the staffs of Rhode Island, Women and Infants and Charles Chapin Hospitals. He was president of the New England Pediatrics Society for two years; Rhode Island Academy of Pediatrics and Providence Medical Association.

Doctor Utter was a member of the Rhode Island Medical Society, the American Board of Pediatrics, the American Medical Association, the Providence Art Club and the Agawam Hunt in Rumford.

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Nonsystemic Glomerulonephritis

Introduction Of Electron Microscopy And Immunofluorescence Studies Of Renal Biopsy Material Has Clarified Pathological Classification

By J. Gary Abuelo, M.D.

Glomerulonephritis (GN) is a rather general term used to denote many diseases that affect the renal glomeruli. While some of these diseases such as acute GN may demonstrate polymorphonuclear infiltrates and other elements of inflammation, others such as membranous GN have little or no inflammatory changes. The term GN is applied to the renal involvement of many systemic diseases such as Goodpasture's syndrome, Henoch-Schönlein purpura, systemic lupus erythematosus, and bacterial endocarditis. It is also used to name the several glomerular conditions which do not involve extrarenal tissue. These **nonsystemic glomerulonephritides** frequently progress to chronic renal failure; indeed they are the cause of renal insufficiency in 25 to 50 per cent of patients on chronic hemodialysis.

The pathological classification of GN has been considerably clarified in the past ten years due to the introduction of electron microscopy and immunofluorescence to the study of renal biopsies. While nomenclature is not yet completely standardized, there is now agreement on the main pathological features of the various entities. As pathologists became able to separate out the different entities, it was possible for clinicians to study more homogeneous groups of patients. The result is that we have a much better idea of the clinical course and response to treatment of the various types of GN. This paper will briefly review normal glomerular anatomy and will go on to consider the clinico-pathological characteristics of the major forms of nonsystemic GN.

J. GARY ABUELO, M.D., *Division of Renal Diseases, Rhode Island Hospital.*

This is one of a series of papers supported by the Continuing Education Program of the Rhode Island Health Science Education Council.

NORMAL GLOMERULAR ANATOMY

The glomerulus is made up of Bowman's capsule and the enclosed capillary tuft (Figure 1). Bowman's capsule is a spherical structure with an outer basement membrane and an inner lining of parietal epithelial cells. It opens out into the proximal tubule in one area and is invaginated by the capillary tuft in another. This latter structure is formed by the afferent arteriole, which enters the capsule and divides into capillary branches, forming 2-8 lobules. Blood entering the various lobules passes through the glomerular capillaries, recollects and exits via a single efferent arteriole. Each lobule is made up of a capillary and a supporting connective tissue stalk called the mesangium, which is composed of a ground substance (mesangial matrix) and the specialized cells which produce it (mesangial cells). On sectioning the glomerulus the relationship between the capillary and the mesangium is more clearly seen with the mesangium lying centrally between the capillary loops (Figure 2).

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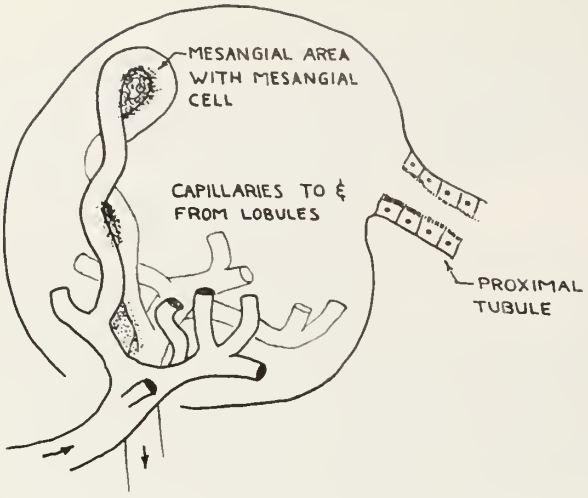

Figure 1 Schematic representation of the glomerulus. The afferent arteriole divides into several capillary branches. Most of these have been cut away to show a single lobule with its capillary loop and its mesangial stalk. Blood that has passed through the lobules recollects into the efferent arteriole.

Within Bowman's capsule the capillaries take on an external layer of epithelial cells. Thus, as seen in Figure 2, the capillary wall is made up of the endothelial cell, the basement membrane, and the epithelial cell. The latter does not cover the basement membrane in a single cytoplasmic sheet, but sends out finger-like projections which interdigitate with those of neighboring cells. These projections are usually seen on cross section by electron microscopy and are called foot processes.

PATHOLOGICAL CLASSIFICATION

The nonsystemic glomerular diseases may be arbitrarily divided into three groups. The **lipoid nephrosis group** is characterized by negative staining with immunofluorescence and often by a dramatic response to corticosteroids. The **immune deposit group** is so named because it resembles by light, immunofluorescent, and electron microscopy glomerulonephritis produced in animals by the glomerular deposition of circulating antigen antibody complexes. These diseases show deposits of immunoglobulin and complement by immunofluorescent and electron microscopy and do not respond to steroids. Finally, the **rapidly progressive glomerulonephritis group** is characterized by the presence of crescents in over 60 per cent of the glomeruli.

The Table (p. 13) lists the various diseases that will be considered along with their major pathological and clinical features.

THE LIPOID NEPHROSIS GROUP

Lipoid nephrosis, also known as minimal change disease and nephrotic syndrome of childhood, is responsible for two-thirds of the nephrotic syndrome occurring in children less than 5 years old, but only for one quarter of nephrotic syndrome occurring in adults. Light microscopic examination of the glomerulus in these patients is unremarkable, and immunofluorescence is negative. The hallmark of this disease noted on electron microscopy is the "fusion of foot processes," wherein the epithelial cells round up, withdrawing their foot processes, and the basement membrane becomes covered by a solid sheet of cytoplasm.

The usual clinical picture is characterized by the sudden onset of nephrotic syndrome. In one-third of cases this may be preceded by a few days by an upper respiratory infection or a vaccination. One may also find microscopic hematuria, hypertension, and acute renal failure in a small percentage of cases. Eighty

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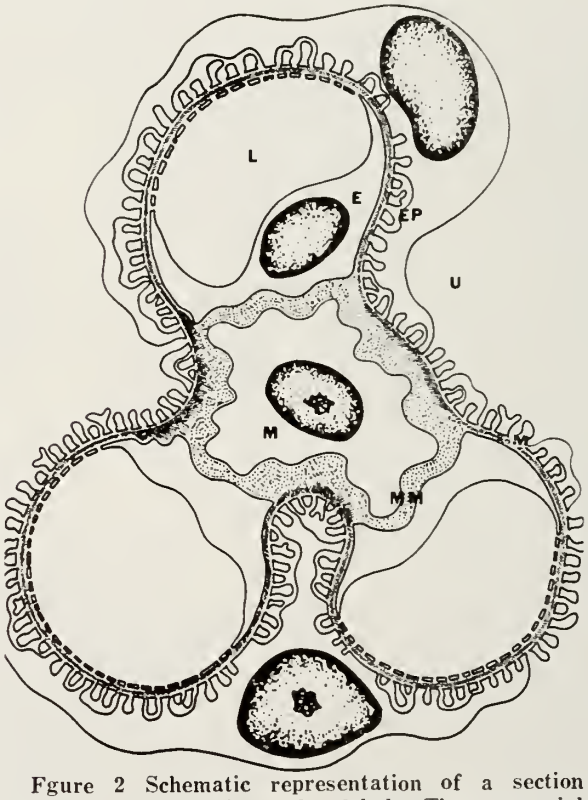


Fgure 2 Schematic representation of a section through a normal glomerular lobule. The mesangial area, made up of the mesangial cell (M) and the mesangial matrix (MM), lies centrally between the capillaries. The capillary lumen (L) is separated from the urinary space (U) by the endothelial cell (E), the basement membrane (BM), and the epithelial cell (EP).

DISEASE	PATHOLOGY	CLINICAL PRESENTATION							SPECIFIC TREATMENT	PROGNOSIS
		Acute renal failure	Nephrotic Syndrome	Microscopic Hematuria	Gross Hematuria	Asymptomatic Proteinuria	Chronic renal failure	Low Complement		
Lipoid Nephrosis	"fused" foot processes	occ transient	relapsing	occ	very rare	occ	never	never	Usually responds steroids cyclophosphamide	Eventual recovery
Focal Sclerosing GN	juxtamedullary glomeruli have sclerosed segments	rare	frequent	frequent	rare	common	occ	never	occ responds steroids cyclophosphamide	rare recovery CRF in 1-11 years
Membranous GN	subepithelial deposit spikes on basement membrane	occ transient	frequent	frequent	rare	occ	rare	never	none	¼ heal ¼ CRF 1/2 continued neph. syn. or prot.
Membrano- proliferative GN	subendothelial, subepithelial and mesangial deposits double contours	occ transient	frequent	frequent	sometimes	sometimes	rare	often	none	CRF in < 10 years
Berger's Disease	IgA and IgG in mesangium	rare	occ transient	often	frequent	frequent	rare	never	none	episodes of gross hematuria occ CRF
Acute GN	polys diffuse proliferation deposits throughout	often	occ transient	frequent	occ	frequent	never	usually	none	Most heal
Rapidly Progressive GN	>60% glom have crescents	frequent	occ	frequent	occ	frequent	occ	when 1° disease is SLE, AGN, MPGN	none	May heal if < 80% glom involved
Chronic GN	proliferative and sclerosing changes	rare	frequent	frequent	occ	frequent	frequent	never	none	Chronic progressive course

Figure 3 Schematic representation of the changes seen in membranous GN. Immune deposits (black) are indicated by the arrows and lie between the basement membrane and the epithelial cell. Spike-shaped projections of basement membrane are seen separating the deposits.

per cent of these patients will respond to prednisone, 40-60 mg per day for 4-8 weeks, with a dramatic remission of their proteinuria. Unfortunately, some two-thirds of these steroid-responsive patients will eventually relapse and follow the characteristic course of having one or many relapses, all steroid responsive, occurring over years with eventual cure and no residual renal impairment. Cyclophosphamide has been used successfully in this group to induce permanent remission or to delay relapse for a year or more. Since cyclophosphamide therapy is often complicated by alopecia, azoospermia, hemorrhagic cystitis, and bone marrow depression, its use is generally limited to patients who have developed intolerable side effects of steroids. Death occurs in as many as 20 per cent of adults with this disease, usually due to pulmonary embolism, adrenal insufficiency, or infection, and very rarely to renal failure. The etiology of lipid nephrosis is unknown.

Focal sclerosing glomerulonephritis, also known as focal segmental glomerulosclerosis and focal and segmental hyalinosis, is the cause of about 10 per cent of the nephrotic syndromes seen in children and adults. Examination of renal biopsy material from these patients reveals that most glomeruli resemble those of minimal change disease by light, immunofluorescent, and electron microscopy. The disease is set apart from the previous group, however, by the appearance of acellular sclerotic segments in some glomeruli at the corticomedullary junction. These segments may contain fatty or hyaline deposits and may stain for C3 and IgM or immunofluorescence.

The usual clinical picture is that of nephrotic syndrome occasionally accompanied by microscopic hematuria or hypertension. This disease may also present as asymptomatic proteinuria or chronic renal failure. As many as 25 per cent of patients with focal sclerosing glomerulonephritis may have a dramatic response of the proteinuria to corticosteroids or cyclophosphamide. Most patients, however, follow a clinical course of nephrotic syndrome or continuous asymptomatic proteinuria unaffected by treatment and ending with the gradual progression to chronic renal failure. End-stage renal failure occurs as early as one year or as late as 11 years after the onset of this disease. The etiology is not known. This disease often recurs in the transplanted kidney, suggesting that it is induced by circulating factors in the patient's plasma.

Occasional patients with nephrotic syndrome have had lipoid nephrosis on an initial biopsy and have had focal sclerosing GN on follow-up biopsy. It is not clear whether focal sclerosing GN was present initially, but was missed because of its focal distribution, or if lipoid nephrosis progressed to this less benign form of GN.

Mesangial proliferative glomerulonephritis is the least well-known of diseases in this group. The pathological appearance is characterized by a diffuse proliferation of mesangial cells and by negative or scanty immunofluorescent staining. Reports in the literature on the clinical course of these patients have been conflicting, with some patients resistant to steroids going on to chronic renal failure, while others, whether responsive to steroids or not, go on to clinical cure.

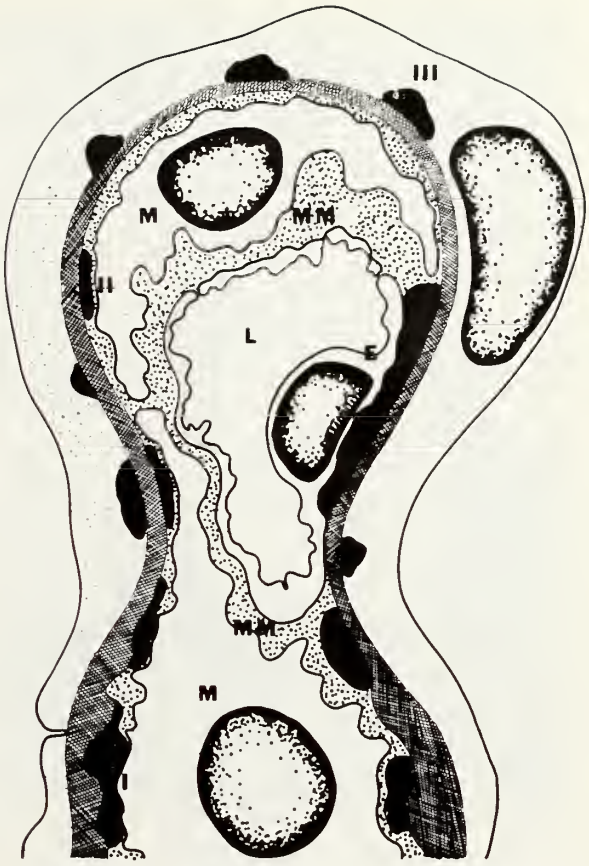
THE IMMUNE COMPLEX GROUP

Membranous glomerulonephritis is the first immune complex type of disease that we will consider. It is responsible for about 10 per cent of childhood and adult nephrotic syndromes. The pathological hallmark of this disease is the granular deposition of IgG with or without complement along the outside of the capillary basement membranes. On electron microscopy these deposits are seen as electron dense areas located between the epithelial cells and the basement membrane (Figure 3). As the disease progresses, club or spiked-shaped projections from the basement membrane appear between these deposits, At this stage the capillary walls appear uniformly thickened on light microscopy; there is little or no increase in cellularity.

The majority of these patients have a nephrotic syndrome unresponsive to steroids and accompanied in some cases by microscopic hematuria, hypertension, or renal failure. The disease follows an extremely variable course with as many as 25 per cent of patients going on to a spontaneous clinical cure, while 50 per cent continue to have nephrotic syndrome or proteinuria and 25 per cent progress to chronic renal failure after 8-10 years of disease. Corticosteroids and immunosuppressive agents have no effect on the course.

While in most patients with membranous GN no cause can be found, in 10 per cent of patients a primary condition may be discovered. The most common conditions are **neoplasms,** usually lymphomas or carcinomas of the lung or bowel. Membranous GN may also complicate **therapy** with gold, penicillamine, Tridione®, or mercurials; **infections** such as congenital and secondary syphilis and Australian antigen positive hepatitis; **autoimmune** disease such as systemic lupus and sarcoidosis; and **sickle cell anemia.** The disease often improves if the primary condition can be treated.

The second immune complex disease, **membranoproliferative glomerulonephritis,** is also known as mesangiocapillary GN, hypocomplementemic GN, or lobular GN. This disease causes about 10 per cent of childhood and adult nephrotic syndrome. The pathological hallmark is the deposition of immunoglobulin and complement along the capillary walls (on either side of the basement membrane) and in the mesangium (Figure 4). Furthermore, the



Figue 4 Schematic representation of the changes in membranoproliferative GN. Immune deposits are seen in the mesangium (I) and along the capillary wall both inside (II) and outside (III) the basement membrane. The mesangial cells (M) extend around the circumference of the capillary accompanied by mesangial matrix (MM).

mesangial cells proliferate and extend around the circumference of the capillary lumen, making their way between the basement membrane and the endothelial cell and bringing along a layer of mesangial matrix. Since mesangial matrix has similar staining properties to basement membrane, this extension of the mesangial matrix gives to the capillary wall a "double contour" appearance by light microscopy.

Membranoproliferative GN classically presents as proteinuria or nephrotic syndrome with microscopic hematuria. Occasionally, the patient may first come to medical attention because of gross hematuria or an acute GN type of picture accompanied by acute renal failure. This latter group of patients may recover rapidly from the renal failure and be left with asymptomatic proteinuria or microscopic hematuria. About one-half of the pa-

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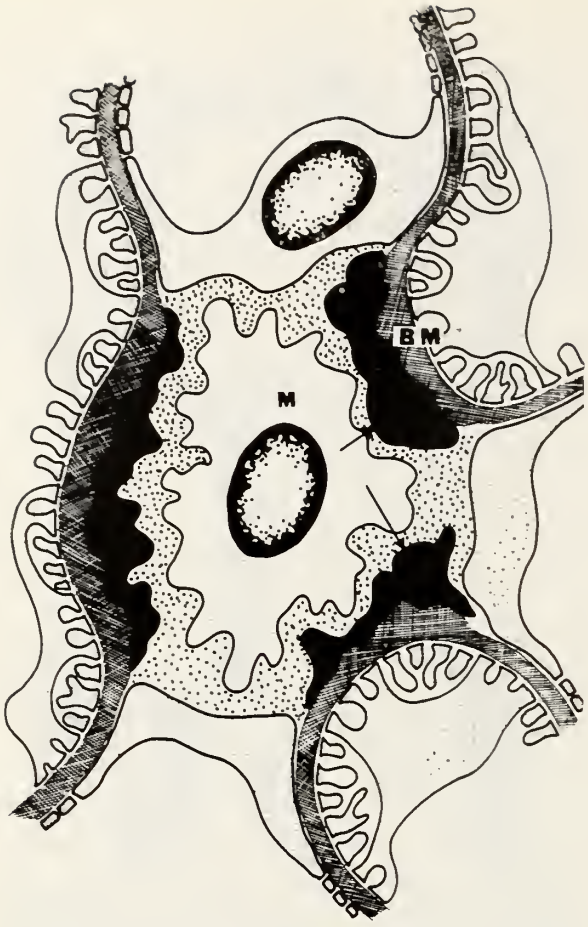


Figure 5 Berger's disease. This schematic representation shows immune deposits in the mesangium (arrows).

tients have low serum C3 and low total hemolytic complement levels. The low complement levels have been attributed to the presence of C3 nephritic factor in their plasma. This is a poorly characterized protein which consumes complement when added to normal serum. The nephrotic syndrome usually persists, but may remit leaving persistent proteinuria. End-stage renal failure occurs in three-quarters of these patients by 10 years after the onset. No treatment is effective in changing the symptoms or ultimate outcome of this disease.

Membranoproliferative GN has occasionally been reported in association with chronic Australia antigen positive hepatitis or with infected ventricular atrial shunts used in the treatment of hydrocephalus. In the vast majority of patients, however, the disease is of unknown etiology. Like focal sclerosing glomerulonephritis, this disease may recur in the transplanted kidney, suggesting the presence of circulating factors, perhaps in this case circulating immune complexes.

Dense deposit disease is responsible for about 3 per cent of childhood and adult nephrotic syndrome. Its histological appearance is almost identical to that of membranoproliferative GN. However, in addition to the pathological features already described, there are extremely electron-dense sausage-shaped deposits in the glomerular, tubular, and Bowman's capsule basement membranes. The clinical picture, subsequent course, ineffectiveness of treatment, and recurrence in transplants are similar to those in membranoproliferative GN, with the exception that dense deposit disease is not associated with chronic hepatitis or "shunt" infection. It is, however, associated with an unusual condition known as partial lipodystrophy.

The fourth of the immune deposit glomerulonephritides is **Berger's Disease** or IgA mesangial deposit disease. The disease is characterized histologically by a variable amount of mesangial cell proliferation and the presence of deposits of IgA in the mesangia of all the glomeruli usually accompanied by IgG and complement (Figure 5). This is a fairly common nephropathy accounting for between 5 and 10 per cent of renal biopsy material. Classically, this disease presents as an episode of gross hematuria 1-3 days after an upper respiratory infection (URI) or a nonspecific gastroenteritis. More recently it has been recognized that many of these patients may present with proteinuria with or without microscopic hematuria. The vast majority of patients with Berger's disease run a benign course which may go on for many years. One-half of the patients will have one or more episodes of gross hematuria characteristically following an URI. The other patients will be completely asymptomatic with urinalysis occasionally yielding normal results, occasionally showing microscopic hematuria or proteinuria, or both. On long-term follow-ups some 10 per cent of patients eventually go on to chronic renal failure. While there is some evedence that corticosteroids may eliminate the episodes of gross hematuria, Berger's disease is usually not treated.

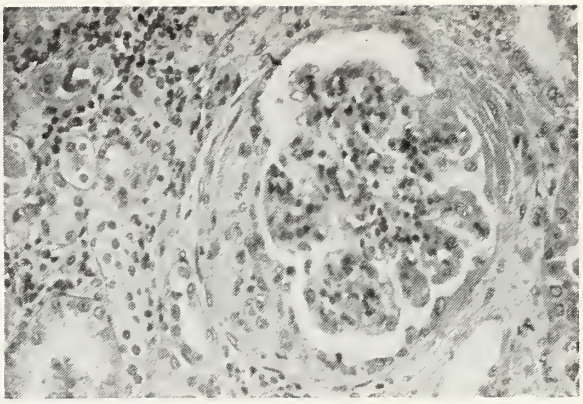
The etiology of this condition is unknown. However, an immune complex etiology involving the IgA class of antibodies is suggested

by the finding of IgA deposition in normal-appearing skin in these patients, reports of elevated serum levels of IgA, and the recurrence of this disease in the transplanted kidney.

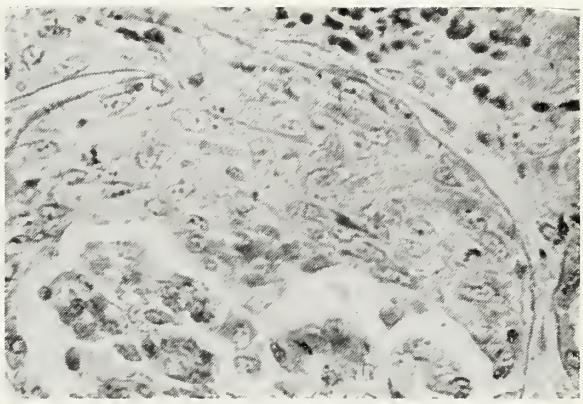
Acute glomerulonephritis, otherwise known as diffuse proliferative or poststreptococcal GN, is the last of the immune complex disease group. Examination of renal tissue during the acute stage by light microscopy reveals a diffuse cellular proliferation of the glomeruli, thought to involve principally the mesangial cells, and infiltration by many polymorphonuclear leukocytes. Granular deposits of complement and immunoglobulin are seen by immunofluorescence along the capillary walls and in the mesangium. Under electron microscopy they appear as large electron-dense deposits, called humps, located on the outside surface of the capillary basement membrane, as well as smaller deposits along the inner surface of the basement membrane and in the mesangium.

Eighty to 90 per cent of patients have a previous history of an upper respiratory infection or sore throat 1-3 weeks before the onset of nephritis. Alternatively, pyoderma may precede the onset in an occasional case. Frequently one can document a previous streptococcal infection with culture or with ASO titers. Other serological tests may be used to increase detection of previous streptococcal infections, e.g., antihyaluronidase, antistreptokinase, antideoxyribonuclease B, and antistreptococcal nicotinamide adenine dinucleotidase. In 10 to 20 per cent of cases of acute glomerulonephritis there is no clinical or laboratory evidence for a streptococcal infection. While the etiology in these cases is usually unknown, there is occasionally a bacterial endocarditis, pneumococcal pneumonia, or other acute infection, associated with the glomerulonephritis.

Clinically, acute glomerulonephritis is characterized by edema, gross hematuria, hypertension, proteinuria, and transient mild renal failure with oliguria. Less often one sees anuria with severe renal failure or fluid overload resembling congestive heart failure. Patients typically have a low complement level, but this may not be found in some cases. Probably subclinical acute glomerulonephritis is far more common than the above-described pic-



A.



B.

Figure 6: A. glomerulus with a typical crescent; B. Same, higher power.

ture. In following a large group of children with a streptococcal infection of the throat, 15 per cent had transient falls in their complement levels or minimal abnormalities on urinalysis. On renal biopsy these patients were demonstrated to have acute glomerulonephritis.

Following the acute illness patients usually recover their renal function. However, microscopic hematuria may persist for several months and low grade proteinuria for up to 2 years. Rare patients with acute renal failure will not recover and will require dialysis. This may be associated with the presence of many crescents on the initial biopsy. Long-term followup of a large group of patients with acute glomerulonephritis demonstrated that low grade proteinuria may continue for as long as 15 years, that one-half of patients go on to develop hypertension and a slight or moderate impairment to renal function, and that two-thirds of patients have moderate or advanced sclerosis on repeat renal biopsy. Despite this impressive evidence for continued

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disease activity following the initial episode, progression to end-stage renal disease is extremely rare. During the acute nephritis stage penicillin may be used for treatment of the original infection, diuretics and salt restriction for the volume overload, and peritoneal or hemodialysis for the renal failure.

Most cases of poststreptococcal glomerulonephritis are felt to have an immune complex pathogenesis with the streptococcus releasing antigen into the patient's circulation. This antigen combines with specific antibody produced by the patient, forming circulating immune complexes. The complexes are trapped in the glomerulus in the mesangium and along the capillary wall eliciting an inflammatory reaction. In addition, these circulating immune complexes trigger the complement cascade leading to the low levels of total hemolytic complement and C3 that are reported in this disease.

RAPIDLY PROGRESSIVE GLOMERULONEPHRITIS

This disease, also known as malignant, crescentic, extracapillary, and subacute GN, is characterized pathologically by the presence of crescents in more than 60 per cent of the glomeruli (Figure 6).

Clinically one observes the rapid onset of renal failure with evidence of glomerular damage such as hematuria and proteinuria. About half of the patients have oliguria, and a somewhat smaller percentage have hypertension and nephrotic range proteinuria. The prognosis of this disease is closely related to the percentage of glomeruli involved by crescent formation. When less than 80 per cent of the glomeruli are involved and anuria does not occur, there is a good chance for partial or complete recovery of renal function. When the patient has anuria and crescents in 80-100 per cent of glomeruli, the prognosis is poor despite therapy with anticoagulants, antiplatelet agents, and immunosuppressive agents.

The clinical and pathological picture of rapidly progressive glomerulonephritis just described may occur spontaneously, but in one half of patients it represents a malignant course of an otherwise more benign form of GN. Thus, rapidly progressive GN is described in polyareteritis nodosa, Wegener's granulomatosis, Henoch-Schönelein's purpura, Goodpasture's syndrome, systemic lupus erythematosus, poststreptococcal GN, and membranoproliferative GN. What all these nephritides have in common is that, when they are particularly severe, they cause local areas of necrosis of the glomerular tuft. A break occurs in the capillary wall, allowing spillage of whole blood into Bowman's space. This stimulates the cells of Bowman's capsule to proliferate, forming a crescent. Earlier studies of this disease with immunofluorescent microscopy indicated that most patients had **linear** immunofluorescence for IgG, strongly suggesting the presence of an antibody directed against the glomerular basement membrane. However, more recent reports indicate that only 10 to 20 per cent of patients with this condition have linear immunofluorescence.

CHRONIC GLOMERULONEPHRITIS

Chronic GN is characterized histologically by a variable amount of sclerosis and proliferation by light microscopy. It is a very common diagnosis at autopsy of patients dying of renal disease or in kidneys from patients with end-stage renal disease nephrectomized prior to transplantation. While it may represent a separate form of GN, it is more likely a common final pathway for the many forms of glomerular diseases discussed here. Clinically, patients who have chronic GN on renal biopsy demonstrate proteinuria, variable numbers of cells and casts in the urine, usually some impairment of renal function, and occasionally nephrotic syndrome. The disease often goes on to end-stage renal disease, but may also continue unchanged for many years.

DIAGNOSTIC APPROACH

The normal function of the glomerulus is to filter the blood — allowing salts, water, and metabolic waste products to pass into the urinary space, while retaining red cells and plasma proteins. In the various glomerulonephritides discussed above, the altered glomerulus may filter the blood at a diminished rate leading to **renal insufficiency.** In addition, the injured glomerulus may become abnormally permeable to red cells and protein giving rise to **proteinuria** and **hematuria.** The presence of any degree of these three manifestations — renal insufficiency, proteinuria, and hematuria, whether they cause symptoms or are unexpected laboratory findings — suggests the possibility of glomerulonephritis. The following evaluation should be undertaken to eluci-

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Infections In Joint Replacement Surgery

Measures For Diagnosis And Management Of This Serious Complication Are Outlined

By A. A. Savastano, M.D.

Except for death, infection is unquestionably the most serious complication of joint replacement surgery and, if uncontrolled, will almost inevitably produce a disastrous result.

Infections may be endogenous or exogenous. They may occur either as (a) an early infection or (b) a latent infection. Early infection may be defined as one recognized while the patient is still in the hospital, and latent infection as one which becomes manifest weeks or months later.

There appear to be four possible reasons for the susceptibility of the artificial joint to infection:

1. A dead space inside the artificial joint may favor the survival of mildly pathogenic organisms.
2. Such organisms may be destroyed when the joint is immobilized, such as in arthrodesis, but may survive in the conditions of mobility following an arthroplasty.
3. Plastics involved in the implant may be harmful to the tissues and therefore favor the persistence of mild pathogenic organisms.
4. Abscesses and sinuses, especially those presenting several months after operation, may represent a chemical or allergic response to plastic and may not be primarily of bacteriological origin.

A. A. SAVASTANO, M.D., *Surgeon-in-Chief, Department of Orthopedic Surgery, Rhode Island Hospital; Clinical Professor, Orthopedic Surgery, Brown University Medical School.*

The best management of infection is to prevent it. Some of the items to which very careful consideration should be given in order to prevent infection are:

1. **Evaluation of the patient pre-operatively.** The patient's general condition should be thoroughly studied. If he is debilitated, his deficiency should be corrected prior to surgery. The nutritional state of the patient is important if satisfactory healing is to take place. Serum proteins, fluid volume, blood counts, and electrolyte balance should be in good order prior to surgery of the magnitude required by joint replacement.
2. **Careful scrutiny of the patient for systemic and topical infection.** Acne or other superficial body lesions, urinary tract infection, and chest problems should be corrected prior to institution of surgery.
3. **Gastrointestinal evaluation.** It is necessary to assume that the gastrointestinal system is in good working order, that conditions such as colitis and gastroduodenal ulcers are under control, and that hemmorhoids will not be a problem.
4. **Preparation of the patient for surgery.** The operative site should be thoroughly and completely prepared in the operating room, and the patient properly draped. The use of a special operating room for implant surgery and the reduction of traffic are desirable. Adequate and proper clothing and gloving of the operating personnel is important.

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5. **Delicate handling of tissues and rapid but careful surgical technique.** The longer a large wound is kept open, the greater the chance of infection.

6. **Previous surgery in or near the joint to be replaced.** As far as the hip is concerned, patients who have had a previous arthroplasty, an intertrochanteric osteotomy, or hip nailing are more subject to infection than those in whom no previous surgery has been done. Many reports are available to support this view. Also, patients who require the removal of screws, intramedullary nails, plates, cups, or endoprostheses are more subject to postoperative infection.

7. **Rheumatoid arthritis or previously infected, but arrested infections.** Joints in such cases are much more susceptible to infection.

Among other factors which may affect the infection rate are:

1. **Anticoagulation.** Prophylactic anticoagulation in major joint replacement surgery is suspected by some as contributing to an increased incidence of postoperative infections. However, no convincing figures are available in this regard. Charnley found that there were 6 per cent more infections among patients who were receiving anticoagulants than among those who were not.

2. **The use of adhesive plastic film.** Some authors doubt the value of adhesive plastic film and maintain that stripping off the skin-adhering plastic could conceivably liberate organisms resident in the skin, thus contributing to the infection rate.

3. **Double gloves.** Double gloves are used by many surgeons doing implant surgery. There is no report available appraising the value of double gloves in reducing the infection rate.

4. **Wound closure.** Careful wound closure is of paramount importance. However, some authorities with extensive experience in joint replacement surgery believe that wound closure is probably the least important of all factors implicated in wound infection.

5. **Wound suction.** We agree with others that wound suction is desirable, as it reduces the incidence of hematomata and seromata, thereby probably contributing to a reduction in the rate of infection.

6. **Clean air systems.** Charnley has reduced his rate of infection from approximately 9 per cent to 1.5 per cent allegedly by instituting a system of 300 air changes per hour. However, in the average well-ventilated operating room in the United States with air changes of 20 times per hour and a bacterial count of not more than 5 colonies per cubic foot, the average rate of infection for replacement surgery is below 2 per cent. Consequently, there is doubt as to whether the air change system as described by Charnley is really of significance.

BACTERIOLOGY

Staphylococcus aureus undoubtedly causes most of the infections. Among mixed infections which have been incriminated are: 1. Staph. aureus and diptheroids, 2. mixed coliforms, 3. Staph. aureus and proteus, 4. Pseudomonas aeruginosa plus coliforms, 5. coliforms plus Staph. aureus, and 6. Staph. epidermis and Proteus.

SIGNS AND SYMPTOMS OF INFECTION

The most common symptoms and signs of an infected joint are: 1. pain and a high sedimentation rate, 2. fever and leukocytosis (not necessarily present), 3. local tenderness, 4. local heat, 5. pain and restricted motion, and 6. restricted painful walking.

DIAGNOSIS

Definite diagnosis is dependent upon a positive culture from the joint suspected of being infected. Unless there is actual drainage from a sinus, one of two methods may be employed to reach a definite diagnosis:

1. Direct aspiration of the joint and culture of the exudate together with determination of sensitivities.

2. When exudate is unobtainable by aspiration, washing of the joint with saline and culturing the saline washings.

TREATMENT

Once the diagnosis of sepsis has been established, the accepted and most promising form of treatment is the administration of high dosages of antibiotics. A thorough debridement of the joint is carried out removing all involved soft tissues, bony fragments, particles of cement, and the prosthetic devices. Whether or not the reconstruction procedure is done at this time is dependent largely on the virulence of the organism, the degree of destruction, and the general condition of the patient.

If reconstruction of the joint is postponed, the hip should be placed in traction prior to definitive reconstruction. No active weight-bearing should be allowed. Since continuous traction in the elderly may not be advisable, intermittent traction may be applied.

When debridement alone is done, the infection may be controlled and the wound may heal, but a poor functioning limb will result.

The limb in most cases will be shorter than the opposite one: the joint will be unstable, and, if the hip is involved, telescoping may take place. If the knee is involved, one will often find either a varus, a valgus, or even a recurvatum problem. Generally speaking, these patients must use external forms of support. Once the infection has been controlled, definitive reconstruction surgery is again in order.

Among the types of reconstruction operations which have been performed in the past are: 1. pelvic support operation, 2. valgus osteotomy, 3. Colonna trochanteric reconstruction, 4. Coventry trochanteric reconstruction, 5. arthrodesis, 6. insertion of a vitallium mold, and 7. insertion of endoprostheses.

However, none of these procedures is believed to have the potential of restoring leg length; therefore, with few or no exceptions, the results obtained are not functionally adequate.

In most cases, therefore, reconstruction of the joint is desirable at the time of the debridement whenever possible. The reconstruction operation must be done meticulously, and the patient must receive appropriate intravenous antibiotics for 3 to 4 days prior to the salvage operation, during the operation, and for at least 4 weeks following the procedure. Following the discontinuance of the intravenous therapy, the patient must take oral antibiotics for a lengthy period. Unless he reacts unfavorably to the antibiotic, he may take it orally for as long as one year.

With reference to reconstruction procedures following sepsis, Professor H. W. Buchholz and Doctor H. D. Gartmann of Germany are reported to be performing surgical debridement and at the same operation inserting a new total hip system fixed to the bone by means of an antibiotic acrylic mixture, namely Palacos with gentamicin.

This form of therapy has served well in the salvaging of infected hip joints. The success of antibiotic therapy is usually judged by the clinical response, relief of pain, diminution of local tenderness, disappearance of fever, and lowering of the sedimentation rate.

CASE REPORTS

Case I: A.C., an elderly female, sustained a sub-capital fracture of the left hip in 1968, which was treated by removal of the head of the femur and insertion of an Austin-Moore endoprosthesis. The hip remained quite painful; consequently, several months later the surgeon removed the Austin-Moore endoprosthesis and inserted another with a much longer stem. The hip remained extremely painful to a point where the patient was unable to bear weight on the affected leg. Two and one-half years after the injury a total hip replacement of the Charnley-Muller type was carried out. The patient did well for several weeks, only then to develop an infection of the hip joint, which eventually resulted in debridement and removal of the prosthesis seven months after its insertion. The wound culture was positive for hemolytic Staph. aureus coagulase positive, sensitive to penicillin. The local wound was closed, but with placement of ingoing and outgoing catheters which were irrigated with penicillin. The patient was also treated with massive doses of penicillin. The intravenous penicillin was administered for six weeks. The ingoing and outgoing catheters were removed after one week. The infection was controlled; however, the patient now had a very short left lower extremity associated with pain and requiring her to walk with a walker with a decided limp. Her walking was so defective that in November 1972 she fell and sustained a subcapital fracture of the opposite hip, the right hip, which was treated by the insertion of a Thompson prosthesis with methyl methacrylate. This proved to be a rather successful operation, although the left leg continued to be short and painful. Therefore, in January 1974 a reconstruction operation was performed consisting of a left total hip replacement using a Buchholz prosthesis cemented in place with Palacos with gentamicin. The patient thereafter received intramuscular gentamicin, 40 mg every eight hours for one week, together with massive intravenous doses of penicillin for four weeks,

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followed by oral ampicillin. The patient did exceptionally well. Most of her leg length was restored. Her pain markedly diminished, and she was now able to walk with reasonable comfort. However, several months following the reconstruction procedure she died of coronary heart disease.

Case II: B. J., a 52-year-old female, gave a history of having developed arthritis in her hip because of a congenital dislocation. An osteotomy with pin fixation was carried out. The operative wound became infected with the result that 3 months later her surgeon removed the metallic fixation as well as most of the head and neck of the femur. She was treated with antibiotic therapy. It was not possible to ascertain exactly what had been administered or for how long; nevertheless, the infection subsided. Thus, when the author saw her in March 1972, she complained of pain in her right hip and stated that the wound had last drained one year previously. She stated that she was unable actively to straight raise her leg. The right leg was shorter than the left one by 1 3/4 inches (4.29 cm). She had excellent range of passive motion but she could not actively straight raise her leg and could not internally rotate or adduct her thigh.

X-ray films showed the head and neck of the femur to be absent. Several pieces of wire were present in the area of the joint. The proximal portion of the femur was riding quite high.

A custom-made mini-prosthesis was made, and in April, 1973 she underwent a total hip replacement with the mini-prosthesis put into place. The patient was treated with intravenous Keflin® for two weeks and thereafter received Keflex® by mouth for six weeks. The patient did not develop infection or drainage as a result of the procedure and has continued to do exceptionally well. She is now free of pain. Her shortening has been reduced to ½ inch (1.3 cm).

Case III: D. P. is a 25-year-old white male admitted to Rhode Island Hospital on September 30, 1974 with a severe traumatic arthritis of the ankle following an open reduction of a severe tri-malleolar fracture dislocation sustained thirty months earlier in a motor cycle accident. On October 2, 1974 he underwent a total ankle replacement. Cultures at the time of surgery were negative. He was given intravenous Keflin® for 72 hours and received Keflex® by mouth thereafter. He was discharged from the hospital on October 22, 1974 afebrile and with his leg in a plaster cast.

On March 6, 1975 he had a further accident when a large dog jumped on his foot causing a hematoma on the lateral aspect of the ankle. The hematoma was large enough to be drained. Cultures yeilded an eventual growth of Staph. epidermis and Staph. aureus coagulase negative which were resistant to penicillin G. He was placed on intravenous Keflin,® and further surgical drainage was carried out. Drainage continued in spite of antibiotic therapy; consequently, the prosthesis and cement were eventually removed. He was continued on antibiotics, chiefly intravenous Keflin®. The operative wound was treated with inflow and outflow drainage for 72 hours. He was discharged from the hospital ten days after, afebrile and without wound drainage. His physician reports that he is walking on the foot with only minimal discomfort. He will undoubtedly require another reconstruction operation in the not-too-distant future as he is only 25 years of age. It might have been advantageous to have performed the reconstruction at the time of the debridement and removal of the prosthesis.

Case IV: L. C., a 58-year-old male, was admitted with a three year history of increasing pain in his right hip. X-ray films showed severe degenerative changes consistent with degenerative arthritis with narrowing of the joint space, marginal spurring, flattening of the femoral head, and cystic degeneration. A total hip replacement was performed on September 5, 1974. Wound culture was negative. On the first postoperative day he developed a temperature elevation to 102.6° (39.2° C), which returned to normal after a few days. He received intravenous Keflin® during the operation and for a few days after the operation, followed by Keflex® by mouth. On September 11, 1974 the operative incision appeared erythematous with some serous drainage. His leukocyte count was 11,600. The culture revealed Pseudomonas aeruginosa, sensitive to penicillin and gentamicin. He received both medications for ten days, in addition to in-

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An ENT View Of Adenotonsillectomy

Benefits Of The Procedure Should Not Be Withheld Because Of Exaggerated Reports Of The Dangers

By Charles L. Hill, M.D.

It would be presumptuous to discuss the problem of tonsillectomy and adenoidectomy (T and A) in the name of all otolaryngologists, as the indications for surgery are as varied as the tissue is ubiquitous. However, the thoughts expressed here have evolved over the past fifteen years based on five thousand tonsillectomies.

There are some allegations unfavorable to this type of surgery which warrant examination. Reference has been made to two million T and As a year with 300 deaths (0.015 per cent).[1] Yet the National office of Vital Statistics records a steady decline of deaths from 307 in 1953 to 73 in 1966.[3] There is no breakdown as to the qualifications of the operators involved in these deaths. Reports relating economic strata to increased incidence of surgery do not specify indications for, or the results of, such surgery. To place the matter in proper perspective, the Bureau of Vital Statistics noted 800 deaths from bicycle accidents in one recent year.

Tonsillectomy and adenoidectomy must be considered as separate procedures often with different indications. The following comments are based on relative, rather than strictly definable indications and results. In order to make an intelligent evaluation as to the probability of improvement, one must know the severity and frequency of the disease process. It is important to realize that we are dealing here with probabilities rather than with absolutes. The following questions must be asked: How sick is the individual? How much time has been lost from productive activity from documented infections? How long has the proper antimicrobial treatment been carried out? How much evidence is there of permanent damage? What part does allergy play? And what is the attitude of the patient and parents? It is impossible to be statistically accurate in evaluating the results of an elective procedure such as T and A which has no accurately measurable parameters of success or failure. We must rely on the subjective evaluation of parents, and of physicians using various criteria.

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TONSILLECTOMY

Tonsillectomy is the more difficult of the procedures to evaluate. A study published in 1969 by M. Roydhouse[4] reports on 550 children from two to twelve years of age. When the study was started, the waiting list at the Middlemore Hospital in Auckland, New Zealand was two years. The patients had been referred to the ENT Department for T and A, and the criteria ostensibly were the same for all. The patients were randomly assigned to the waiting list or for immediate T and A, but matched for age, socio-economic status, and

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TABLE 1

Total Number of Patients	Number of Foley Catheters or Posterior Packs	Tonsil or Adenoid Bleeding After Return To The Unit	Bleeders Readmitted
March — 138	12 (13.3%)	5 (11.1%)	0
April — 181	17 (18.9%)	11 (24.4%)	1
May — 167	10 (11.1%)	12 (26.7%)	1
June — 158	10 (11.1%)	6 (13.3%)	1
July — 159	15 (16.7%)	5 (11.1%)	1
August — 152	16 (17.8%)	4 (8.9%)	1
September — 92	8 (8.9%)	3 (6.7%)	2

sex. Records were kept by the parents for the following two years. The children upon whom surgery was performed had 2.2 illnesses in the first year, while there were 4.5 in the waiting-list group. The latter lost more than twice as much school time in the two years than either of the other groups. The control group was healthier than either group the first year, but almost the same as the T and A group the second year. In general, the status of health in all groups was about equal as the years progressed.

We have found no studies concerning tonsillectomy alone in children with recurrent infections, but the adenoids appear to be a source of infection and should be removed together with the tonsils. We have seen patients with a febrile illness with no evidence of tonsillitis, but in whom mirror examination revealed a follicular adenoiditis.

Some physicians believe that cor pulmonale secondary to enlarged oropharyngeal lymphoid tissue in the absence of infection is an occasional indication for surgery. Also, enlarged tissues interferring with proper nutrition, recurrent painful cervical adenitis, and recurrent cystitis may be rare indications.

On the other hand, there have been claims relative to increased incidence of lymphoma, rheumatic fever, and glomerulonephritis in patients who have had tonsillectomy. However, such studies have been few in number either for or against. A major objection to T and A relating to the alleged impairment of the immunologic mechanism has been weakened by the work of Kawarada,[5] who found only IgA in tonsils, with like amounts in cells lining the respiratory passages. Animal experiments have failed to show any change in antibody-producing ability after tonsillectomy.[6]

ADENOIDECTOMY

Adenoidectomy has more definable indications. The most important is recurrent infectious otitis media with aural discharge. The problem of recurrent serous otitis media is less compelling except in youngsters with social hearing impairment. The intermittent 20 db or better hearing loss found in routine school audiograms will usually clear spontaneously or with decongestants and the Valsalva maneuver. The ten to fifteen per cent of children who continue with difficulty after adenoidectomy are candidates for air pressure equalization tubes through the tympanic membrane and allergic evaluation. Also to be considered for adenoidectomy are children with changes in the maxilla, or with speech abnormalities attributable to enlarged adenoids. Young found in a six to nine year follow-up in children who had had adenoidectomy prior to age six that only one in eight required subsequent tonsillectomy, and that the ratio decreased to one in twenty after age six.[7]

POSTOPERATIVE BLEEDING STUDY

An evaluation of postoperative bleeding at the Rhode Island Hospital during the usual nineteen-hour hospitalization has been carried out. The number of patients admitted from March through September 1973 was 1,042 (Table 1). There was no differentiation made as between service or private patients. The number of patients returned to the nursing unit from the operating room with posterior nasal pack was four or with Foley catheter compression 86 (8.64 per cent). The number of patients who bled after return to the unit was 32 (3.1 per cent) from the tonsil, and 13 (1.2 per cent) from the adenoid area. While one individual bled from both areas, most cases appear to have bled from one or the other area. There were eight patients readmitted for bleeding (0.77 per cent). There were no deaths.

Certainly, surgery of the tonsils and adenoids should not be taken lightly. But the child with recurrent problems related to this tissue should not be deprived of the likelihood of improved health by denying help through faulty counseling.

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Editorial

WITHER UTILIZATION REVIEW?

All hospitals in Rhode Island subscribe to PAS-MAP; the state has a single PSRO; and all hospitals are non-profit and community oriented. In response to the joint persuasion of Blue Cross of Rhode Island and the State Auditor and impelled by the imminent transfer of surveillance of utilization review to the Rhode Island PSRO, all Rhode Island hospitals now have concurrent review programs and are engaged in medical evaluation studies. On the whole the hospitals are doing very well in concurrent review, and overall effectiveness is increasing. Medical audit, while not new in most hospitals, is only now gaining momentum and will improve in sophistication with greater experience and closer oversight. There is thus a developing statewide uniformity probably not duplicated anywhere else in the United States.

The Nurse Coordinators in general are intelligent, mature, and highly motivated persons and are performing excellently. They are very deserving of moral support and full cooperation. The current format of review will in all probability be the pattern for the foreseeable future.

Overall length of stay has been progressively decreasing as the effectiveness of utilization review has increased. While there can be diminishing returns or even overkill in over-zealous policing, utilization review, which is essentially the cost-effectiveness arm of the dual UR-audit program, has had a palpably beneficial effect on the quality of medical care. Patients who should no longer be in the hospital are promptly discharged to their own benefit, documentation in the medical records is improved, and mismanagement or inappropriate therapies are exposed.

The problems of waste in medical management will be addressed more zealously in the future. Greater attention will be paid to the lavish use of expensive resources. In-hospital workups of elective cases will be carefully scrutinized to determine how much of the workup could have been accomplished on an ambulatory basis. Preadmission testing will be required more insistently. Social Service and the various new transportation agencies now available for the handicapped and elderly will have a much greater role to play in organizing ambulatory workups and in fact such treatments as physical and radiation therapy. Taxicabs will be used to greater advantage where available. There are instances where a patient has been admitted just so he will be handy when the consultant arrives. Waiting in bed two or three days for the appearance of a busy consultant, or even up to a week in the case of some outlying hospitals and certain peripatetic consultants, will be looked upon with jaundiced eye. There will be less consideration for the convenience of the patient and physician when hospital beds cost upwards of $200 a day. The scope of ambulatory or same-day surgery will be broadened.

There will be greater scrutiny of utilization of all diagnostic and therapeutic activities. With the number of available procedures multiplying by geometric proportion, it will become totally infeasible to order everything. In all but the simplest of cases the order sheet even now is likely to be completely filled with orders before the patient has had his temperature taken. While we are cognizant of the impact of defensive medicine on costs, we believe that it is a relatively small factor in the total picture of escalating costs.

Teaching services will be expected to pay increasing attention to the uncontrolled ordering of tests and services in the name of medical education. While it is certainly a reasonable concept that interns and residents must be given progressive responsibility, another point of view deserves some consideration. The costs of procedures must be kept in mind, and the academic community has a substantial responsibility to teach caution and restraint in the dispensing of costly resources. Teaching services will be expected to look critically at both lengths of stay and the costs of ancillary serv-

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Guest Editorial

NEW BLOOD AT HEW

The following remarks are extracted from a talk delivered before the AMA Intern and Resident Business Session at Atlantic City in June, 1975 by Theodore Cooper, M.D., Assistant Secretary for Health of HEW. They are a refreshing change from the tired old bureaucratic platitudes.

At what point does the zeal for standardization — whether in medical education or in medical practice — obliterate individuality and thereby rob the delivery of health care services of its most essential quality — namely humanity?

There is general agreement in and out of the medical profession that the rising cost of health services must be curbed. While less readily acknowledged, the issue of quality of patient care is similarly of genuine and proper concern to many in the medical profession and to those — notably in the courts and the Congress — who pass judgment on its performance.

But there is also a general assumption that the very real problems of cost and quality can be corrected by standardization, by imposing — or compelling the health industry to adopt — various kinds of rules and regulations aimed as cost control and quality assurance.

Standardization may alleviate some of the ills, but at too high a price — exacting a toll from medicine that had we forseen it, none of us would be willing to pay.

I do not favor increasing direct federal intervention in the field of medicine. By incremental steps — each of which seemed logical and appropriate at the time — the federal government has become a dominant force in medical education, in research, in financing, in resource allocation and in regulation of the health care system. The federal government has taken these reins, not by design, but by default, default on the part of the private health care system.

Even considering the disillusionment with the federal government's limited accomplishments in the workings of the health care system, no thoughtful people are about to call for a federal retreat from the health arena. If anything they are calling for still greater federal domination — federal control of the financing system, federal controls on who is to be trained in medicine, and where and how physicians are to practice. And of course there are those who would settle for nothing less than nationalization of the entire health system.

The reliance on federal control of the health care system will lead to a rigidity and a dehumanization of the practice of medicine that would make the right to health care — even if that goal were finally achieved — a hollow and bitter prize for everyone.

There are two paths away from this dilemma, and I believe that we in the health field have to lead the way along both of them: firstly; the whole American health enterprise — public, private, voluntary — will simply have to take the initiative in identifying major issues and problems, devising options for dealing with these problems and pursuing meaningful courses of action aimed at problem-solving. One of the challenges that faces the medical profession is to wrest leadership away from government; and I can assure you, so long as that leadership is responsible, anticipatory, and effective, this government would much prefer to see it exercised by the private health sector. Secondly; we should be frank with the American people, with their lawmakers, and with ourselves. We have fostered the fiction that abundant, readily available high-quality health care would be some kind of panacea for the ills of society and the individual. Thus we have fueled exaggerated expectations from the public. But it is one of the great and sobering truths of our profession, that modern health care probably has less impact on the health of the population than economic status, education, housing, nutrition and sanitation, and the impact of changing technologies on working conditions and the environment.

The federal government cannot effectively manage the health care system of this country. I hope that job is never given to us.

REFERENCE

American Medical Association House Staff, Interns and Residents Newsletter, 3:1, July-Sept 1975

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found useful in the management of vertigo* associated with eases affecting the vestibular system.

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NDICATIONS. Based on a review of this drug by the National Academy of iences—National Research Council and/or other information, FDA has classified e indications as follows:

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Possibly Effective: Management of vertigo associated with diseases affecting the stibular system.

Final classification of the less than effective indications requires further vestigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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ha-hemolytic streptococci (virdans group): Short-term prolaxis against bacterial endocarditis prior to dental or other erative procedures in patients with a history of rheumatic er or congenital heart disease who are hypersensitive to nicillin. (Erythromycin is not suitable prior to genitourinary gery where the organisms likely to lead to bacteremia are im-negative bacilli or the enterococcus group of streptococci.)

phylococcus aureus: Acute infections of skin and soft tissue mild to moderate severity. Resistance may develop during atment.

lococcus pneumoniae: Upper respiratory-tract infections g., otitis media, pharyngitis) and lower respiratory-tract intions (e.g., pneumonia) of mild to moderate degree.

coplasma pneumoniae (Eaton agent, PPLO): In the treatment primary atypical pneumonia, when due to this organism.

ponema pallidum: Infections due to this organism.

Corynebacterium diphtheriae and *Corynebacterium minutissimum:* As an adjunct to antitoxin, to prevent establishment of carriers, and to eradicate the organism in carriers. In the treatment of erythrasma.

Entamoeba histolytica: In the treatment of intestinal amebiasis only. Extra-enteric amebiasis requires treatment with other agents.

Listeria monocytogenes: Infections due to this organism.

Contraindication: Contraindicated in patients with known hypersensitivity to erythromycin.

Warning: Safety for use in pregnancy has not been established.

Precautions: Erythromycin is principally excreted by the liver. Caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Surgical procedures should be performed when indicated.

Adverse reactions: The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses. During prolonged or repeated therapy, there is a possibility of overgrowth of non-susceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted. Mild allergic reactions such as urticaria and other skin rashes have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

Treatment of overdosage: The drug is virtually nontoxic, though some individuals may exhibit gastric intolerance to even therapeutic amounts. Allergic reactions associated with acute overdosage should be handled in the usual manner—that is, by the administration of adrenalin, corticosteroids, and antihistamines as indicated and the prompt elimination of unabsorbed drug, in addition to all needed supportive measures.

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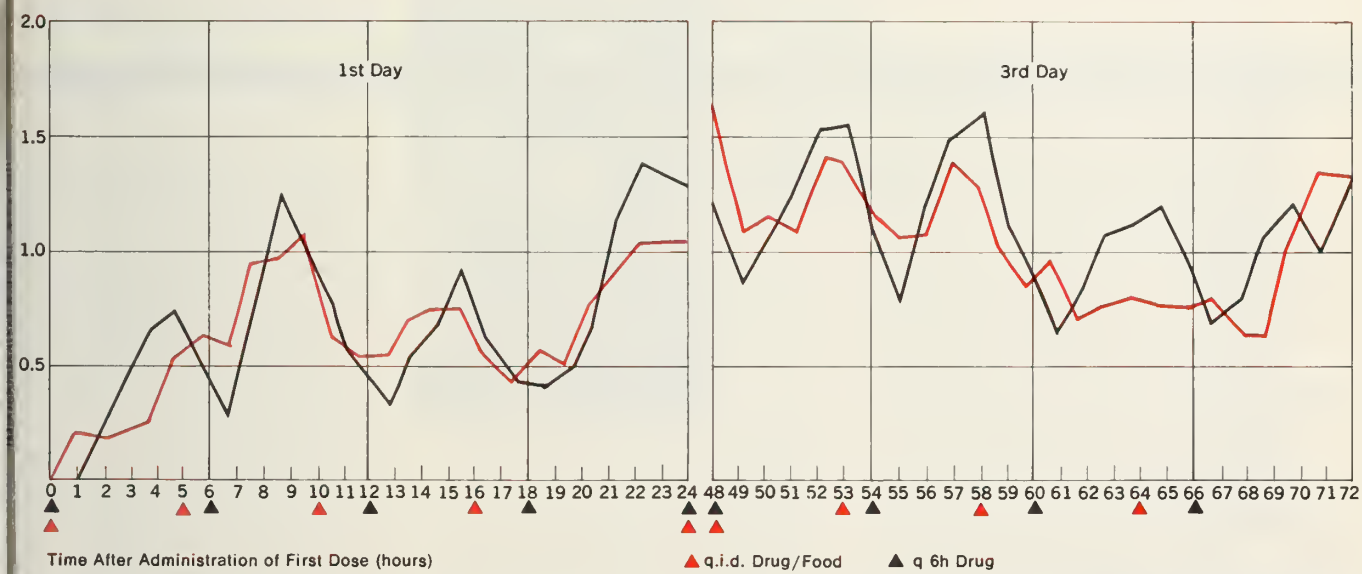

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MED 8-7-5

Opinion & Dialogue

Should a specially prepared package insert be made available to patients?

Dr. Alexander M. Schmidt
Commissioner,
Food and Drug
Administration

Dr. James H. Sammons
Executive Vice President
of the American
Medical Association

The idea of a so-called patien package insert has been around fc a long time. Many physicians alrea use written instruction sheets to provide patients with information about the drugs they are taking. Ar some physicians give verbal instru tions; but in too many instances these are what I call eye-glazing ex ercises. I have seen patients sit wit glazed eyes listening to a rapid-fire lecture by a hurried physician who has 20 people out in his waiting room. These patients aren't given sufficient understanding and there fore do not follow instructions. So I think the idea of an official packag insert for patients is a good one. Perhaps we should really think of this kind of information simply as a extension of drug labeling.

The benefits of patient involvement

Many physicians may not rea ize how frequently a patient obtain his drug information from Aunt Tillie or the next door neighbor. An this information is almost always bad or irrelevant to the case at han Furthermore, the incentive to go along with a prescribed program is slim if the only reading matter the patient receives, along with his pre scription, is a bill.

As an educator I am impresse by the principle that the best way t get someone to do something is to involve him in the process. So the

I think there are advantages a well as some real disadvantages in a patient package insert. When you begin to use semi-medical or medi cal terms to describe complication or possible sequelae of disease or treatment, you may frighten the pa tient—particularly since the more highly sophisticated patient is not the one who is going to read the in sert. The patient who will read it is the one most susceptible to fright and confusion by the language.

On the positive side, a packag insert will probably give the patient better insight into why he is being treated the way he is, and it may give the physician a little bit more time. But it does not remove from the physician the need or obligatio to explain the insert.

Some pitfalls in the inclusion of side effects

Certainly a patient should be warned of the possibility of serious side reactions—to know what the real dangers are. But it doesn't do a bit of good to indicate that a patien on oral penicillin may develop a rash, itching, or a drop in blood pressure. Or that he may faint. I think the real danger is that fright engendered by the insert may pos sibly outweigh the potential good.

rain purpose of drug information f the patient is to get his coopera- tin in following a drug regimen.

Feparation and distribution of ptient drug information

We would hope to amass infor- nation from physicians, medical scieties, the pharmaceutical indus- ti and centers of medical learning. Te ultimate responsibility for uni- fm labeling must, however, rest w h the Food and Drug Administra- tin. There is nothing wrong with tls agency saying, "this informa- tin is generally agreed upon and tlerefore it should be used," as long a our process for getting the infor- m tion is sound.

Distribution of the information is problem. In great measure it wuld depend on the medication in qestion. For example, in the case an injectable long-acting proges- tone, we would think it mandatory tc ssue two separate leaflets—a sbrt one for the patient to read be- fce getting the first shot and a long pe to take home in order to make a dcision about continuing therapy. rhis case, the information might bput directly on the package and n removable at all. But for a medi- cion like an antihistamine this rmation might be issued sepa- rely, thus giving the physician the pion of distribution. This could preserve the placebo use, etc.

It is in the distribution of patient information that the pharmacist may get involved. As professionals and members of the health-care team and as a most important source of drug information to patients, pharmacists should be responsible for keeping medical and drug records on patients. It is also logical that they should distribute drug information to them.

Realistic problems must be considered

We have to expect that the introduction of an information device will also create new problems. First, how can we communicate complex and sophisticated information to people of widely divergent socioeconomic and ethnic groups? Second, what will we say? And third, how can we counteract the negative attitude of many physicians toward any outside influence or input? Hopefully the medical profession will respond by anticipating the problems and helping to solve them. Assuming we can also solve the difficulty of communicating information to diverse groups throughout the United States, our remaining task will be the inclusion of appropriate material.

What information is appropriate?

In my opinion, technical, chemical and such types of material should not be included. And there is no point in the routine listing of side effects like nausea and vomiting which seem to apply to practically all drugs, unless it is common with the drug. However, serious side effects should be listed, as should information about a medication that is potentially risky for other reasons.

Other pertinent information might consist of drug interactions, the need for laboratory follow-up, and special storage requirements. What we want to include is information that will help increase patient compliance with the therapy.

Positive aspects of patient drug information

Labeling medication for the patient would accomplish a number of good things: the patient could be on the lookout for possible serious side effects; his compliance would increase through greater understanding; the physician would be a better source of information since he would be freer to use his time more effectively; other members of the health-care team would benefit through patient understanding and cooperation; and, finally, the physician-patient relationship would probably be enhanced by the greater understanding on the part of the patient of what the physician is doing for him.

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y the doctor can remove that fear 20 or 30 minutes of conversation.

I'm not suggesting that we vhold any information from the aient because, first of all, it would ctotally dishonest and secondly, it wuld defeat the very purpose of the nert. I do think that a patient on the ih control pill should know about h incidence of phlebothrombosis.

If you're going to tell a patient h incidence of serious adverse re- cons, then you have to tell him ht a concerned medical decision vs made to use a particular medi- ca on in his situation after careful csideration of the incidence of cmplications or side effects.

Emotionally unstable patients pose special problem

There are patients who, be- ase of severe emotional problems, cld not handle the information ctained in a patient package in- e. Yet if we are going to have a kage insert at all, we just can't e two inserts. I think we might ply have to tell the families of se patients to remove the insert m the package.

Legal implications of the patient package insert

Just what effect would a patient package insert have on malpractice? We could try to avoid any legal implications by pointing out that the physician has selected a particular medication because, in his professional judgment, it is the treatment of choice. For instance, you can't tell everyone taking antihistamines not to work just because a few patients develop extreme drowsiness which can lead to accidents. And what about the very small incidence of aplastic anemia rarely associated with chloramphenicol? If, based on sensitivity studies and other criteria, we decide to employ this particular antibiotic, we do so in full knowledge of this serious potential side effect. It's not a simple problem.

How do we handle an insert for medication used for a placebo effect?

With rare exceptions, physicians no longer use medications for a placebo effect. This question does raise the issue of how a patient may react to receiving a medication without a package insert.

Preparation of the package insert

The development of the insert ought to be a joint operation between physicians, the pharmaceutical industry, the A.M.A. and the F.D.A.

I view the A.M.A.'s role as a coordinator or catalyst. It is the only organization through which the profession as a whole, irrespective of specialty, can speak. It has relatively instant access to all the medical expertise in this country. And it can bring that professional expertise together to ensure a better package insert. The A.M.A. can work in conjunction with the industry that has produced the product and which is ultimately going to supply the insert.

I don't think we should rely, or expect to rely, on legislative committees and their nonprofessional staffs to make these decisions when it is perfectly within the power of the two groups to resolve the issues in the very best American tradition—without the government forcing us to do it. I think the F.D.A. has to be involved, but I'd like them to become involved because they were asked to become involved.

Pharmaceutical Manufacturers Association
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NONSYSTEMIC GLOMERULONEPHRITIS

(Continued from page 18)

date the nature of the glomerular lesion and to exclude other conditions.

HISTORY

Chronic glomerulonephritis may begin insidiously and run an asymptomatic course over several years or even decades. The discovery of proteinuria or hematuria during a prenatal, life insurance, employment, armed services, or preoperative examination may be the first sign of disease. Similarly, nocturia may be an early manifestation of glomerulonephritis. A careful history of drug and occupational exposure should be taken with particular attention to phenacetin, trimethadione, penicillamine, and heavy metal exposure. Nephritis in family members with or without deafness should be sought. A history of impetigo or recent sore throat is of obvious importance in acute glomerulonephritis. Fever, rash, and joint symptoms may point to systemic lupus erythematosus (SLE) or other vasculitis.

LABORATORY TESTS

The laboratory studies which one orders depend on the specific clinical manifestations, but usually include the following. The degree of hematuria should be semiquantitated with several microscopic examinations of fresh urine. Proteinuria should be estimated with a 24-hour urine for protein and creatinine. Repeated serum creatinine levels will document the presence and trend of renal insufficiency. Evidence for streptococcal infection may be obtained with cultures of throat and skin lesions, titers of antistreptolysin O (ASO), and an antihyaluronidase determination. SLE should be excluded with antinuclear antibody titers, LE preparations, antideoxyribonucleic acid (DNA) antibody, and if indicated a biopsy of normal skin for immunofluorescence. Serum complement if reduced will suggest acute glomerulonephritis, membranoproliferative glomerulonephritis, or dense deposit disease. Finally, an intravenous pyelogram is usually performed to confirm that the patient has two functioning kidneys of normal size and location and to rule out mimicking conditions such as tumor, obstruction, stones, cysts, and tuberculosis.

The presence of proteinuria greater than 3.5 gm of protein per 24 hours, so-called **nephrotic range proteinuria**, with rare exception limits the diagnostic possibilities to a glomerular abnormality. This is most likely a form of GN, but multiple myeloma, amyloidosis, and diabetic glomerulosclerosis must be considered, particularly in an elderly patient or in a known diabetic. Consequently, funduscopy and glucose tolerance tests are performed to detect possible diabetes mellitus; serum and urine electrophoresis and urine for Bence Jones proteins will rule out multiple myeloma; and skin, muscle, and rectal biopsy material studied with amyloid stains will rule out amyloidosis. If the nephrotic syndrome is present, one usually wishes to document the hypoalbuminemia and the hyperlipidemia with serum albumin, triglyceride, and cholesterol levels.

When **proteinuria** is less than 3.5 gm per day or when there are red cells and red cell casts in the urine, one must think of GN, but lesions of the interstitium, tubules, and arterioles must also be considered. Thus, the possibilities of acute and chronic pyelonephritis, renal tuberculosis, interstitial nephritis (often drug-induced and associated with eosinophilia, rash, and fever), urate nephropathy, and benign nephrosclerosis are entertained as diagnoses, and one orders urine cultures, urine for acid fast bacteria (AFB), white blood count (WBC) and differential count, and serum uric acid levels. Orthostatic proteinuria may be determined by demonstrating that abnormal amounts of protein in a urine voided with the patient ambulatory are not found in urine voided on awakening in the morning.

Hematuria in the absence of red cell casts and proteinuria, may indicate a glomerular or

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other renal lesion or an extrarenal problem. One may add to the differential diagnosis a long list of conditions including bleeding diascrasia, sickle cell disease, renal infarct, polycystic kidneys, hemangioma, stones, tumors, schistosomiasis, and hemorrhagic cystitis. Appropriate studies are ordered depending on the clinical picture.

With the evaluation of GN here outlined, renal functional impairment, amount of proteinuria, and hematuria can be documented, and many of the conditions which may mimic GN can be identified. Unfortunately the diagnosis of a particular form of GN can only be made by the pathologist employing light, immunofluorescent, and electron microscopy to examine specimens of renal tissue obtained by surgical or needle biopsy.

The decision to perform a **biopsy** is not an easy one. A tissue diagnosis can allow the clinician to predict response to therapy, prognosis, and the chances of recurrence in a transplant. These apparent advantages are tempered by the following facts: 1) lipoid nephrosis is the only condition readily responsive to therapy, and most patients so affected will be treated in any case, if one is prepared to administer prednisone to all children below the age of ten with nephrotic syndrome; 2) knowledge of the prognosis, while of great interest, is of limited use in the care of the patient; and 3) the knowledge that a disease recurs in a transplant has not, to this date, been used to disqualify a patient from receiving an allograft, although it may become a consideration in the near future.

Despite these drawbacks, the desire of the patient and the physician to know the diagnosis has led to the following policy: 1) to biopsy the kidney of a child with nephrotic syndrome only after he has failed to respond to a trial of prednisone; 2) to biopsy a patient with a classical clinical picture of acute glomerulonephritis only if recovery is not evident within a few weeks after onset; 3) to biopsy all older children and adults with nephrotic syndrome or acute renal failure of unknown origin; and 4) to biopsy an occasional patient with episodes of gross hematuria or persistently abnormal urinalysis, if the patient so desires after being informed of the limited benefits such a procedure may yield.

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(Continued on next page)

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INFECTIONS IN JOINT REPLACEMENT SURGERY

(Continued from page 22)

travenous Keflin® and local hot soaks. He was discharged from the hospital on the forty-fourth postoperative day without difficulty and without drainage. He has remained well.

Case V: O. B., a 55-year-old black male, was admitted with a history of a glancing blow to his left hip while at work in August, 1973. He gave a further history of increasing pain in the left hip and groin. X-ray studies showed evidence of aseptic necrosis of the head of the femur. All laboratory tests, including a metastatic survey, were negative. Tests for sickle cell anemia were also negative. A Thompson prosthesis was inserted on August 29, 1974. His postoperative course was complicated by persistent drainage from the operative incision. Pseudomonas and E. coli were cultured. He was treated effectively with Keflex®, in spite of which the Pseudomonas persisted. He was then treated with Coly-Mycin®, which resulted in a quick cessation of the drainage. Coly-Mycin® was continued for five days while the blood urea nitrogen (BUN) was carefully monitored. He was discharged on October 2, 1974 free of drainage and ambulatory with crutches.

He was re-admitted on December 7, 1974 with a recurrence of severe pain in his left hip. He stated that about six weeks after discharge from the hospital he began to experience severe pain in his hip, particularly on weight bearing. Examination revealed severe tenderness in the region of the abductor group of muscles, and motions were restricted and quite painful. Laboratory tests were negative except for a high sedimentation rate. He was treated with bed rest and traction, and in a few days drainage appeared. Cultures of the drainage grew out Pseudomonas and E. coli. He was treated with gentamicin and Keflex® with improvement. The joint was aspirated under x-ray control, and culture of the aspiration yielded E. coli. Administration of intravenous Keflin® was started, and following consultation with the Infectious Disease Department intravenous ampicillin 12 grams per day. Since the pain did not relent and drainage persisted, the prosthesis and most of the methacrylate were removed. Ingoing catheters were inserted, and he was kept in traction. Repeated cultures showed no growth, except for one which showed some gram negative rods. Intravenous ampicillin was continued for 2½ weeks.

A chemical reaction was now suspected. Recent reports indicated the possibility of sensitivity to the chrome alloy. Therefore, rather than reconstruct the joint with another chrome alloy system, a stainless steel total hip system was inserted. A smear taken at the time of surgery showed no evidence of bacteria. An extensive debridement was performed before inserting the trapezoidal hip replacement. Five cultures were taken during the procedure, one of which grew out E. coli. The wound was closed with suction drainage, and the patient was ambulated on the eighth day after receiving intravenous Keflin® for three days. He was discharged on March 8, 1975 and was instructed to take ampicillin by mouth.

The patient was readmitted to the hospital on June 3, 1975 complaining of pain in the

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affected hip, painful restricted motion, fever, elevated sedimentation rate, and purulent drainage from his affected hip. The prosthesis was removed, the wound packed, and antibiotics continued. The wound closed after four months.

This patient's problem is far from being solved. Eventually another attempt at reconstruction of the hip will have to be made probably using Palacos with gentamicin.

CONCLUSIONS

1. While reconstruction at the time of debridement may be possible, delayed reconstruction may be preferable.

2. Appropriate antibiotic therapy is of paramount importance, The antibiotic should be as specific as possible, and must be bacteriocidal rather than bacteriostatic.

3. Whenever possible, broad spectrum antibiotics should not be used, as they often fail to control the infection and may even encourage secondary infection with other organisms.

4. Toxicity of and hypersensitivity to the antibiotic should receive attention.

5. Large doses of the appropriate antibiotic for lengthy periods of time are essential. These should be given intravenously for a minimum of 4 weeks followed by 2-3 months of oral therapy.

When to start and when to discontinue antibiotics is an important decision. As a rule administration of the antibiotics should be started as soon as the infection is suspected, continued intravenously for at least 4 weeks, and then followed by oral antibiotics for months. Blood counts, pain, fever, tenderness and the sedimentation rate are important guides to therapy. If therapy is discontinued too early, there may be a recurrence of the infection. In our experience intravenous therapy should be continued for a minimum of 4 weeks and oral antibiotics for as long as 90 days.

Staph. aureus coagulase negative appears to be much more difficult to control than Staph. aureus coagulase positive, and Gram negative rod organisms are much more difficult to control than Gram positive bacteria.

In performing a reconstruction procedure a prosthesis with a longer stem than that previously used is advisable, since in certain cases the calcar of the bone may be softened and therefore deficient. In some cases the abductors may need lengthening, and in others it may also be necessary to release the abductors.

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⚓ ⚓ ⚓

HOW'S THAT AGAIN? DEPARTMENT

A 37-year-old man was arraigned yesterday on a charge of indecent assault and battery on a child under the age of 13.

Police said the culprit was arrested early yesterday morning after a complaint was filed by the child's mother. He listed his occupation as social worker.

... From News Item

⚓ ⚓ ⚓

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AN ENT VIEW OF ADENOTONSILLECTOMY

(Continued from page 24)

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WHITHER UTILIZATION REVIEW

(Continued from page 25)

ices. The encouragement of restraint and economy must become an integral part of the teaching philosophy.

It is quite possible that the PSROs, when they assume the ultimate responsibility for some of these matters, will prove to be much tougher and more emphatic than have been the reviewing agencies of the past.

While the role of the fiscal intermediary will change as hospitals assume a delegated status under the PSRO, it is unlikely that the intermediary will entirely fade from the scene. It is predictable that the federal government will reserve for itself and its intermediaries some monitoring role.

We do not foresee that the emergence of the PSRO as an operational entity will make life easier for anyone.

SJG

NEW YEAR RENOVATIONS

The first of the year invariably serves as an inspiration for resolutions, changes, and improvements. In that spirit, and with the approval of the Publications Committee, the Journal has adopted some minor changes in its cover design and undergone a total conversion to a new type style within.

The consistent use of the words "Rhode Island" rather than the abbreviation in the title facilitates matters for indexing purposes, and regular readers will find the slightly larger and bolder look of the new type to be a refreshing change.

Peripatetics

Rhode Island Hospital announced the election of the following officers for 1976: President, CHARLES L. HILL; President-elect, HERBERT CONSTANTINE; Vice President, RICHARD MEAD; Treasurer, THOMAS McOSKER; Executive Committee, JOHN O. STROM, WILLIAM THOMPSON, and AUGUSTINE McNAMEE. Doctors KINDER, FISCHER, and NANIAN have completed their 2-year terms as members-at-large and are rotating off the Executive Committee.

* * *

Doctor CHARLES E. MILLARD, president and founder of the Bristol County Medical Center, has been appointed to the Commission on Education of the American Academy of Family Physicians, a national medical organization of 38,000 general practitioners.

Millard, named to the nine-man commission by the academy's board of trustees, is the president and founder of the Academy's Rhode Island chapter and is one of few New England doctors to win appointment to the education commission.

Membership in the academy requires general practitioners to keep up with new advances in medicine by doing at least 150 hours of post-graduate work every three years.

The academy's education commission is particularly prestigious because it is the educational policy-making arm of the organization. Millard, who is 61 and lives in Warren, said he was "gratified" by the appointment.

* * *

WILMA ROSEN, M.D., was appointed the first woman President of the Butler Hospital Staff Association. On September 1, 1975, Doctor Rosen was also appointed full-time psychiatrist on the staff of Butler Hospital.

ONE SENTENCE ESSAY

System, or as I shall term it, the virtue of method, is the harness without which only the horses of genius travel.

. . . Sir William Osler

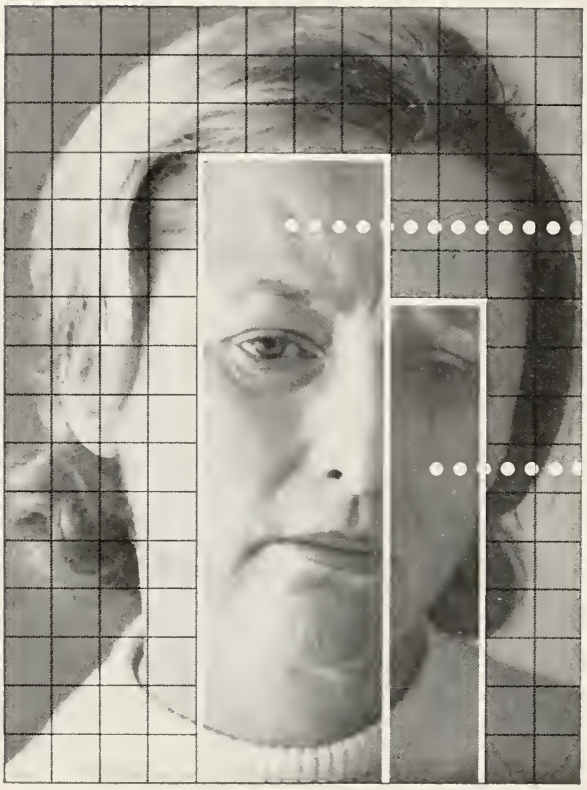
Rhode Island Medical Journal

February, 1976 Vol. 59, No. 2

MAR 5

SEE NEWSLETTER

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequenc and/or severity of grand mal seizures ma require increased dosage of standard anti-convulsant medication; abrupt withdrawa may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

THE FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE
BOSTON

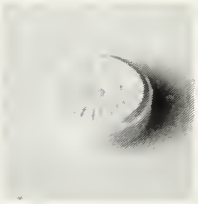
MAR 5 1976

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

FEBRUARY, 1976 VOLUME 59, No. 2

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NEWSLETTER . . .

THE RHODE ISLAND MEDICAL SOCIETY

February, 1976

TRIBUTE TO A GRAND LADY

Helen DeJong Retires

Mrs. Helen DeJong, Society Assistant Librarian since 1930 and Librarian since 1945, was honored at a reception following the House of Delegates session. Delegates approved of a Council recommendation designating Mrs. DeJong as Archivist and Librarian Emerita of the Rhode Island Medical Society. Society President, Stephen J. Hoye, M.D., pinned a corsage on Mrs. DeJong and presented her with a handsome plaque which will hang in the library. The plaque, which bears a photo engraving likeness of her, also includes the following inscription:

"She served with grace and cheer, without limitation on time, to ensure the maximum utilization of all the resources of this library."

The reception, held in the Society Library, was attended by many of her Rhode Island Librarian colleagues and friends. During the reception Doctors Thomas Perry and Irving Beck presented Mrs. DeJong with a silver bowl on behalf of the Library Committee of the Rhode Island Medical Society. Doctor Beck also gave to the Library in the name of Helen DeJong, Doctor James Henry Davenport's personal, illustrated copy of LITERARY DOCTORS OF MEDICINE.

Doctors Irving Beck and Thomas Perry presented Mrs. DeJong with a silver bowl on behalf of the Library Committee.

Helen DeJong retired officially on October 30, 1975 and has been succeeded by her assistant, Mrs. Connie Simpson Austin. Miss Judy Zimmer now serves as assistant librarian. In spite of her official retirement, Mrs.

(*Continued on Page 3*)

Annual Meeting

of

The Rhode Island Medical Society

MAY 5, 1976

AT THE MARRIOTT INN

PROVIDENCE, RI

CHAPIN ORATOR:

WILLIAM HARRIS, M.D.

Clinical Professor of Orthopedic Surgery, Massachusetts General Hospital, Boston, Massachusetts.

Please circle the date on your calendar.

BLUE SHIELD NOMINEES ELECTED

In accordance with the bylaws of Blue Shield of Rhode Island, the House of Delegates, at its meeting of January 28, 1976, renominated four physicians to serve three year terms each as members of the board of directors. Named as nominees to the corporation were: Doctors Joseph E. Caruolo, Herbert F. Hager, and William J. MacDonald, all of Providence, and John J. Walsh of Washington County.

RIMS Members Invited to Visit London

Recent correspondence between the Bicentennial Committee of the Rhode Island Medical Society and the Medical Society of London has produced an invitation for the officers and members of our Society to visit London in June or July.

Interested members should contact the executive office at 331-3207. If there is sufficient response, such a trip will be organized and a specific date announced.

James H. Sammons, M.D., Executive Vice President of the American Medical Association, will address the Society at the Annual Meeting.

AMA to Continue Specialty Journals

In-house publication of AMA specialty journals will be continued and AMA members will continue indefinitely to receive the journal of their choice as a membership benefit.

The decision to retain the present publishing arrangement was announced January 29 by the Board of Trustees Executive Committee after extensive discussions with commercial publishers who were invited to bid on production management of the journals. Under such a management arrangement the AMA would have continued to own the publications and control of the editorial content.

Nine monthly specialty journals are now published by the AMA. The 10th, Archives of Environmental Health, was transferred last December to the Helen Dwight Reed Foundation, Washington, D.C., and Heldref Publications.

House of Delegates

At its January 28 meeting, the House of Delegates of the Rhode Island Medical Society approved of a Council recommendation officially designating Mrs. Helen DeJong as Archivist and Librarian Emerita of the Rhode Island Medical Society. Mrs. DeJong, who served as assistant librarian from 1930 to 1945 and librarian from 1945 until her retirement on October 30, 1975, has continued serving the Society on a part-time basis while completing her work on the archives, instrument collection, and rare books.

A resolution presented by Doctor Richard L. Testa relating to burn therapy was also approved by the House. The resolved portion reads as follows:

> "Be it resolved, that the Rhode Island Medical Society establish a Committee for Burn Therapy composed of one member from each acute care hospital whose initial task is that of a burn registry to collect burn data from all acute care hospitals eventually leading to a Burn Center in Rhode Island with participation by all acute care hospitals in the teaching and treatment of burns."

In another action, the House voted to retain the services of Duffy & Shanley, Inc., a local public relations firm, to render such assistance as might be necessary to the Rhode Island Medical Society in 1976.

The House also adopted a motion which urged the Health Planning Council to make recommendations to provide for the beds and qualified personnel necessary for the implementation of a program to decentralize the Institute for Mental Health.

An additional motion passed by the House referred the matter of student membership and voting privileges for specialty society representatives to the newly created Bylaws Committee. This matter came as the result of a resolution offered by Doctor Charles L. Hill which requested complete membership status for specialty society representatives in the House of Delegates.

PRESIDENT'S REPORT: Malpractice Update

As of this writing, the Governor's Commission on Malpractice has not yet held its final meeting to determine what recommendations will be sent to the Rhode Island General Assembly. In all likelihood, such a meeting will have been held by the publication date of this newsletter.

We intend to keep members of the Rhode Island Medical Society apprised of any and all malpractice legislative proposals which come before the Rhode Island General Assembly. If developments warrant a newsletter type publication to all Society members every other week, we shall do it. We intend to keep all members fully informed on the subject, as we know of no other issue which evokes so much interest and concern and has such an effect on patient care and the costs involved in rendering medical services.

Without question, we will need your help in our efforts to secure the passage of malpractice legislation which will help to stabilize malpractice insurance premiums, thereby enabling Rhode Island physicians to remain in the practice of medicine and obviating their need to pass on substantial cost increases to the public. The California situation should serve as a warning to us all. Incredibly high insurance rates ultimately influence the availability of medical services. Many doctors in California are retiring, leaving the state or taking federal jobs. Some physicians have elected to remain in practice but without insurance coverage. In any event, we must explore every avenue and exhaust every resource to assure our colleagues and the public whom we serve in Rhode Island that the plight of California does not spread to the Ocean State. A solution will not be easy. We must hope for the cooperation of the public, the medical profession, the legal profession, the insurance industry, the executive branch of government and our Rhode Island General Assembly. There is too much at stake for us to fail.

Secretary Reports Council Activities

The Council has held two meetings since the previous meeting of the House of Delegates on September 24, 1975. Charles B. Round, M.D., Secretary of the Society, reported. Some of the actions taken were as follows:

Delegates to State Meetings

The President was authorized to appoint delegates to represent the Society at the annual meetings in 1976 of neighboring New England state medical associations.

AMA National Leadership Conference

The Council authorized the President to name representatives to the 1976 AMA National Leadership Conference (January 23-25, 1976 at the Marriott Hotel in Chicago). They are: Stephen J. Hoye, M.D., President; Herbert F. Hager, M.D., President-Elect, and Messrs. Jim Clarkin and Tim Norbeck.

Annual Report of the Treasurer

The annual report of the Treasurer was reviewed and approved subject to a professional audit.

Rhode Island Interagency Council on Smoking

As authorized by the Council, the President again named Doctors Melvin D. Hoffman, Leland W. Jones, and Seebert J. Goldowsky as the Society's voting delegates to the Interagency Council on Smoking.

Benevolence Fund Annual Report

The annual report from the Trustees of the Benevolence Fund was received and placed on file.

AMA-AMPAC Public Affairs Workshop

The President was authorized, with the help and counsel of the RIMPAC Chairman, Doctor John J. Cunningham, to select the Society's representatives to this workshop.

Rhode Island Alliance of Blood Pressure Control

The Council was informed of President Hoye's appointment of Joseph A. Chazan, M.D. to succeed Kenneth B. Nanian, M.D. as the Rhode Island Medical Society representative to the Alliance.

Rhode Island Health Services Research, Inc.

William J. MacDonald, M.D., one of two Rhode Island Medical Society representatives to the SEARCH Board of Directors, apprised the Council of his desire to be relieved of that assignment. The Council approved of the appointment of Stephen J. Hoye, M.D., as his successor.

Mrs. Helen DeJong

The Council approved of designating Mrs. DeJong as Archivist of the Rhode Island Medical Society and Librarian Emerita.

Malpractice Legislation

The Council agreed that the Rhode Island Medical Society should have model legislation ready to introduce into the Rhode Island General Assembly should the Governor's Commission fail to reach accord on a legislative package.

Bylaws Committee

The Council authorized the President to appoint a Bylaws Committee which would be empowered to draw up bylaws which would provide a mechanism for the inclusion of students and residents into the Rhode Island Medical Society and which, with respect to membership in the House of Delegates, would provide for such a representative only when its component membership equals that of the smallest district society.

Board of Examiners in Medicine

The Council adopted a motion that it was the obligation and duty of the members of the Rhode Island Medical Society, when properly funded and protected with immunity, to cooperate with the Board of Examiners in Medicine when called upon to provide expert medical testimony.

Yellow Pages To List By Specialty

Doctors will be contacted beginning this month by a representative of the Yellow Pages of the New England

(*Continued on Page* 4)

Doctor Stephen J. Hoye, President of the Society, presented Mrs. DeJong with a commemorative plaque.

TRIBUTE

(*Continued from Page* 1)

DeJong has continued her service to the Society on a part time basis in order to complete her important work on rare books, archives, and instrument collection. To say that she will be missed would be a gross understatement. The Society extends its deepest gratitude and best wishes to a Grand Lady — Helen DeJong.

Doctor Beck also gave to the Library, in the name of Helen DeJong, Doctor Davenport's copy of LITERARY DOCTORS OF MEDICINE.

"Unnecessary Surgery?"

A House subcommittee report titled "Unnecessary Surgery" is "unsound in concept" and "unscientific in method," the AMA told the subcommittee chairman recently. "The staff of the subcommittee have done you a great disservice," AMA Executive Vice President James H. Sammons, M.D., said in a letter to Rep. John E. Moss (D-Calif.). The report of the Subcommittee on Oversight and Investigations also "contains errors in data and information, distorts testimony . . . and bases its main conclusions on an incomplete and improperly defined study," Doctor Sammons said. "We must conclude that the report submitted to you by the staff is nothing more nor less than a dishonest piece of political propaganda." The report, issued late in January, said Americans spent $3.9 billion on 2,300,000 unnecessary operations that resulted in 11,900 deaths.

The subcommittee used 17 per cent as the rate of unnecessary surgical procedures, although the source for the figure, Eugene G. McCarthy, M.D., of Cornell University, pointed out that it represents "not confirmed" procedures. Doctor McCarthy also told the subcommittee that his study was not a study of unnecessary surgery and that it included no follow-up on how many of the 17 per cent needed the operation later on. Doctor Sammons wrote: "Despite the staff's knowledge that (the 17 per cent figure) was not an accurate and final figure even by the staff's own applied definition, the staff used it as the basis for all its projections. Mr. Chairman, I leave it to your own judgment as to whether such methodology is honest or dishonest."

The AMA letter to Moss cites the report's misrepresentation of savings possible by the elimination of so-called unnecessary surgery. Error is inherent in the grossly inflated figures reached by nationwide projection, although Doctor McCarthy in his study noted that "the findings presented here cannot be applied to the general population undergoing elective operations." Moreover, the AMA said, no allowance for the expense of alternative methods of care is made in the computations. "Yet the subcommittee, once again, was told by Doctor McCarthy that such costs — as well as the costs of second consultations (estimated at about $50 per case) — must be offset against any projected savings. No such offset was made. All the subcommittee staff did was multiply its estimated number of unnecessary surgeries by its own estimate of the cost of a surgical procedure ($1,650). This, again, is patently dishonest and results in an exaggerated figure."

Testimony before the subcommittee was distorted in the report, the AMA pointed out. The subcommittee said it used "six categories of unnecessary surgery" developed by George Zuidema, M.D., of Johns Hopkins School of Medicine, but Doctor Zuidema had told the subcommittee that his study defined "certain categories of operations which would require clarification before one could decide whether the procedure was necessary or unnecessary." Ignored in the report is Doctor Zuidema's comment that the allegations as to unnecessary surgery are "totally unsupported by data."

In its report the subcommittee recommended that HEW require a second professional opinion for all Medicare-Medicaid surgery and that HEW undertake a study "to determine the differences in health indices, costs and surgical procedure rates between salaried surgeons and fee-for-service surgeons." Doctor Sammons said the AMA endorses "the idea of second consultation in high risk cases or when medically appropriate" and has "so recommended on numerous occasions." He noted that the report ignores testimony that second consultations and peer review programs have been developed by the private sector. The report's recommendation expresses no apparent interest in a consideration of those patients being denied necessary surgery under prepaid plans," he said.

"We reject the notion that Americans have been subjected to millions of unnecessary operations, that have wasted billions of dollars, and cost thousands of lives," the AMA lette said. "Such allegations by the subcommittee staff are unsupported and ur supportable. We reject the slanderou and insulting notion that surgeons ar primarily motivated by money an that prepaid group practice woul eliminate all unnecessary surgery Such a proposition is unproven, un provable and flies in the face of testi mony presented before the subcommit tee."

The AMA also countered a series o articles on "inept medical practices published last week in the *New Yor Times*. In a letter to the publisher, ex cerpts of which were published on th *Times'* front page, Doctor Sammon said, "In arriving at national estimate of deaths from 'unnecessary' surger and wrongly prescribed drugs, th *Times*, in some cases, relies on studie that are not statistically projectable. I others, the national estimates are buil on studies whose methodology has bee questioned, both in the medical litera ture and by experts in the field." Por tions of the *Times* articles were base on the "unnecessary surgery" report o the House Subcommittee on Over sight and Investigations. Doctor Sam mons questioned why the newspape had failed to include the testimony b George Zuidema, M.D., chief of sur gery at Johns Hopkins.

Yellow Pages

(*Continued from Page* 3)

Telephone Company, regarding a nev type of listing for the Providence area

In addition to the usual listing i the Yellow Pages under "Physicians in alphabetical order, the Telephon Company is now offering physician *in the Providence area only* an addi tional listing by specialty, i.e., if yo are a Pediatrician, you may elect t be listed alphabetically under the head ing Pediatrics (Infant and Child Care) at a cost of approximately $20 per yea

The Council of the Rhode Islan Medical Society concluded that pa ticipation in such listing is an indi vidual decision and is not unethical.

BROWN UNIVERSITY

DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES
Providence, Rhode Island 02912
863-3231

CONTINUING MEDICAL EDUCATION CALENDAR

MARCH

6 THE MULTIPLE ENDOCRINE NEOPLASIA SYNDROMES. A. David Goodman, M.D., Professor of Medicine and Head, Division of Endocrinology and Metabolism, Albany Medical College. 10:00 A.M., George Auditorium, Rhode Island Hospital.

15 PITFALLS IN THE DIAGNOSIS OF CORONARY ARTERY DISEASE. Michael V. Herman, M.D., Chief of Cardiology, Mount Sinai School of Medicine. 10:00 A.M., George Auditorium, Rhode Island Hospital.

19 ADVANCES IN TREATMENT OF TUBERCULOSIS — NATIONAL AND INTERNATIONAL. Edward M. Sewell, M.D., Associate Professor of Pediatrics, School of Medicine, University of Pennsylvania; Director, Division of Respiratory Diseases, Children's Hospital of Philadelphia. 10:30 A.M. Kay Auditorium, Roger Williams General Hospital.

20 ACID-BASE HOMEOSTASIS: A FALTERING SHIBBOLETH. Jordan J. Cohen, M.D., Associate Professor of Medicine, Tufts University School of Medicine; Chief, Renal Service, New England Medical Center Hospital, Boston. 10:00 A.M., George Auditorium.

27 DIFFICULTIES FOLLOWING SURGICAL TREATMENT OF PEPTIC ULCER DISEASE. Larry C. Carey, M.D., Professor and Chairman, Department of Surgery, Ohio State College of Medicine. 10:00 A.M., George Auditorium, Rhode Island Hospital.

COMING EVENTS

APRIL

3, 4 METABOLIC AND NUTRITIONAL DEFICIENCY DISEASES AND THE ORAL CAVITY. Annual symposium of the Brown University Program in Medicine and American Academy of Oral Medicine, Barus Holley Building, Brown University. Topics include: Vitamins, Nutrition and Overnutrition; Hemachromatosis and Iron Loading Anemias; Parathyroid Disorders; Intestinal

Malabsorption; Nutrition and Aging; Diabetes Mellitus in Adults; and Calcium Metabolism and Osteoporosis. For more information, contact Mrs. Allen, Box G, Brown University, Providence, RI 02912.

14 INTEGRATING BEHAVIOR MODIFICATION TECHNIQUES INTO CURRENT MEDICAL PRACTICE. Sponsored by the Brown University Office of Continuing Medical Education, Section of Psychiatry and Human Behavior, and Rhode Island Department of Medicine. Topics will include: General Principles of Behavior Modification; Chronic Pain; The Non-Complaint Patient; and Sexual Dysfunction. Panel dscussions and questions from the audience will be included. Further information will be forthcoming.

BROWN UNIVERSITY
DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES
Providence, Rhode Island 02912
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A Message from the Dean

MEDICAL SCHOOL ADMISSIONS

The mounting anxiety which surrounds admission to the medical schools of the United States has extended beyond the family living room into the public arena. Legitimate concerns have been expressed recently that the American medical schools are inadequate in meeting the physician needs of our nation and that many qualified students are denied admission.

At the beginning of this decade approximately 25,000 applicants competed for about 11,500 first-year vacancies in the medical schools of the United States. By 1975 the number of vacancies in the 114 American medical schools had risen to 15,066, but the number of applicants rose still further to 42,624. The applicant-acceptance ratio had therefore increased from 2.3 to 2.8 in these past five years. Based on future enrollment estimates suggested by the accreditation office of the Association of American Medical Colleges and on various projections of the numbers of undergraduates likely to apply to medical schools in the future, it is anticipated that the first-year medical students in 1979 will number approximately 15,900 Selected from an applicant population of about 55,000.

The problem is indeed vast since each applicant, on average, presently applies to 8.5 schools. The U.S. medical schools processed 362,376 applications in 1975. During this past year two U.S. medical schools (Georgetown, Chicago) each attracted over 6,000 applications, while an additional five were each deluged with over 5,000 applications.

The ratio of applicants per opening at the individual medical schools is both awesome and sobering. At Brown we receive about 25 applications for each opening. Seven American schools presently receive 50 or more applications per opening, and the State University of New York, Stony Brook, has processed 147 applications for **each** of its first year medical school positions.

Clearly a major effort must be made to ensure both an efficient as well as equitable system in choosing our future colleagues. In this and succeeding messages it is our aim to describe the admissions policies and procedures of the Brown University Program in Medicine and later to convey some idea of how Rhode Islanders in general are faring in their acceptance to and matriculation within the medical schools of the United States.

Brown University adheres to a policy of equal opportunity in medical education and reviews applicants without regard to sex, race, creed, color, or national origin. Nevertheless, when two applicants are deemed to be essentially equal in academic performance and promise, the candidate from Rhode Island has been and will be given preference by the Admissions Committee. Beyond this the University attempts to meet certain institutional goals insofar as geographic distribution, socioeconomic diversity, and specific individual aims of students are concerned.

Regular applications for admission to the class commencing in September are to be submitted to the admissions office between August 1 and November 1 of the preceding

(Continued on next page)

year. An application is regarded as complete when it contains documentation of the Medical College Admission Test results, transcripts of all courses taken in institutions of higher education, and a comprehensive letter of evaluation from the applicant's pre-medical advisor. Other documents bearing upon the suitability of the candidate for the study of medicine, including unsolicited letters of recommendation, are also reviewed with care.

Successful completion of college level courses in each of the following subjects is required for acceptance to the Brown Medical Program: inorganic chemistry, organic chemistry, physical chemistry, biochemistry, analytic geometry, calculus, at least three courses in biology including molecular biology and cell physiology, physics, and two courses in behavioral and social science.

A committee composed of practicing physicians, Brown University faculty, and senior medical students screens all completed applications and, on the basis of academic performance and letters of recommendation, offers interviews to less than one-fifth of the applicant pool; virtually all Rhode Island citizens applying to Brown, however, are granted interviews.

Acceptances to the Brown medical school are offered beginning in late autumn, and the class is typically filled by late winter. Last-minute changes necessarily occur, since the more gifted students may be offered places at more than one school and may not make their final choice until late in spring. Nevertheless, it appears from preliminary acceptance data that the Brown University medical school class beginning in September, 1976 will be composed ultimately of 60 students; and of the 53 chosen thus far, 23 (43 per cent) are residents of the State of Rhode Island. Two students from Providence College and two students from the University of Rhode Island have already been offered places in this next medical school freshman class. The remaining 30 students derive from 12 states and the District of Columbia.

Stanley M. Aronson, M.D.
Dean of Medical Affairs
Brown University

AMA CONTINUING MEDICAL EDUCATION OPPORTUNITIES

More and more physicians are interested in updating their medical skills and knowledge in the interest of better patient care. And, an ever-increasing number of state medical associations, specialty societies, and other medical groups are stipulating continuing medical education as a membership requirement.

In response to these developments, the AMA has greatly expanded its C.M.E. programs.

The nine regional meetings, multidisciplinary in approach, are of interest to a variety of medical specialists and physicians in primary care. Scheduled on weekends, they make it easier and mose convenient for you to continue your education. Then there are the two AMA conventions. The Annual **alone** features 53 postgraduate courses and many, many other features in continuing education.

REGIONAL C.M.E. MEETINGS

Jan. 17, 18	Tulsa, Okla.
Feb. 28-29	Denver, Colo.
March 17-20	Lexington, Ky.
April 3, 4	Indianapolis, Ind.
April 3, 4	Detroit, Mich.
May 9	Dallas, Tex.
Sept. 4, 5	Jackson Hole, Wyo.
Sept. 11, 12	Milwaukee, Wis.
Sept. 10-12	Portsmouth, N.H.

125th ANNUAL CONVENTION

June 26-30	Dallas, Tex.

30th CLINICAL CONVENTION

Dec. 4-7	Philadelphia, Pa.

For more information about meetings, courses, accommodations, tuition fees, etc., write for a free course catalogue.

Council on Scientific Assembly
American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

The President's Page

THERE'S NO FREE LUNCH ANYMORE!!

By Stephen J. Hoey, M.D.

The recent billing of the membership for this year's Medical Society and AMA dues is producing a gratifying response. Although the dues increases in both groups were overwhelmingly endorsed by their respective Houses of Delegates, there are always those members (and those who should be members) who are willing to sit back and "Let George do it" (and pay to get it done!).

"What's the Medical Society and the AMA doing for me? Why should I pay my dues?" — are the old cliches that the blind and the deaf "free-luncher" is all too quick to substitute for the action he should be taking — that of writing a check to finance the activities of those representatives who are willing to carry the fight to preserve the right to care for people in the manner we know best.

What, indeed, are we doing? Let me count the ways:

1. AMA WINS THE LEGAL BATTLE OVER HEW'S UTILIZATION REVIEW REGULATIONS! In May, 1975, the AMA was granted a preliminary injunction against the Utilization Review regulations requiring 24 hour concurrent review of all hospital admissions under Medicare and Medicaid. The Federal Government's motion to stay this decision was denied by the District Court and the Circuit Court of Appeals, and the Secretary of HEW has now withdrawn the regulations.

2. AMA SUES HEW ON MAC (MAXIMUM ALLOWABLE COST) REGULATIONS! In July, 1975, the AMA sued for a permanent injunction against the HEW regulations setting a maximum allowable cost for drugs administered to patients under federal health care programs.

3. AMA WINS FIGHT TO PREVENT FEDERAL CONTROL OF RESIDENCIES! In September, 1975, the AMA won an important victory in the U.S. House of Representatives when provision for federal control of medical residencies were stricken from the Health Manpower Act of 1975. The original bill called for federal restrictions on the allocation and distribution of residencies.

4. AMA BATTLES WITH FTC ON ETHICS ISSUE! The Federal Trade Commission is suing the AMA because its Code of Professional Ethics prohibits advertising and solicitation of patients and is therefore restraining competition!

5. AMA IS PLANNING LEGAL ACTION AGAINST THE NATIONAL HEALTH PLANNING AND RESOURCES DEVELOPMENT ACT (PL 93-641) as an unwarranted assumption of state authority by the federal

(Continued on Next Page)

government. This law is imminently dangerous to the provision of quality medical care, and the average doctor is barely aware of its existence and certainly not knowledgeable of its far-reaching effects on the delivery of health care, abridging the freedoms of the public and the medical profession.

These are only a few highlights of what organized medicine is doing for us, the practicing physicians. All these activities are expensive and should be supported by the rapid payment of dues to demonstrate to our leaders in the forefront of these battles our approval of their efforts on behalf of us and our patients.

So do it now! According to one estimate, government at all levels — federal, state, and local — either purchases or provides 70 per cent of the $120 billion spent annually in the U.S. for health services. That means that doctors and their patients will be faced to an ever increasing extent with regulations dictated by some powerful political body.

THE BATTLES ARE BEING FOUGHT NOW! SUPPORT YOUR SIDE! THERE'S NO FREE RIDE!

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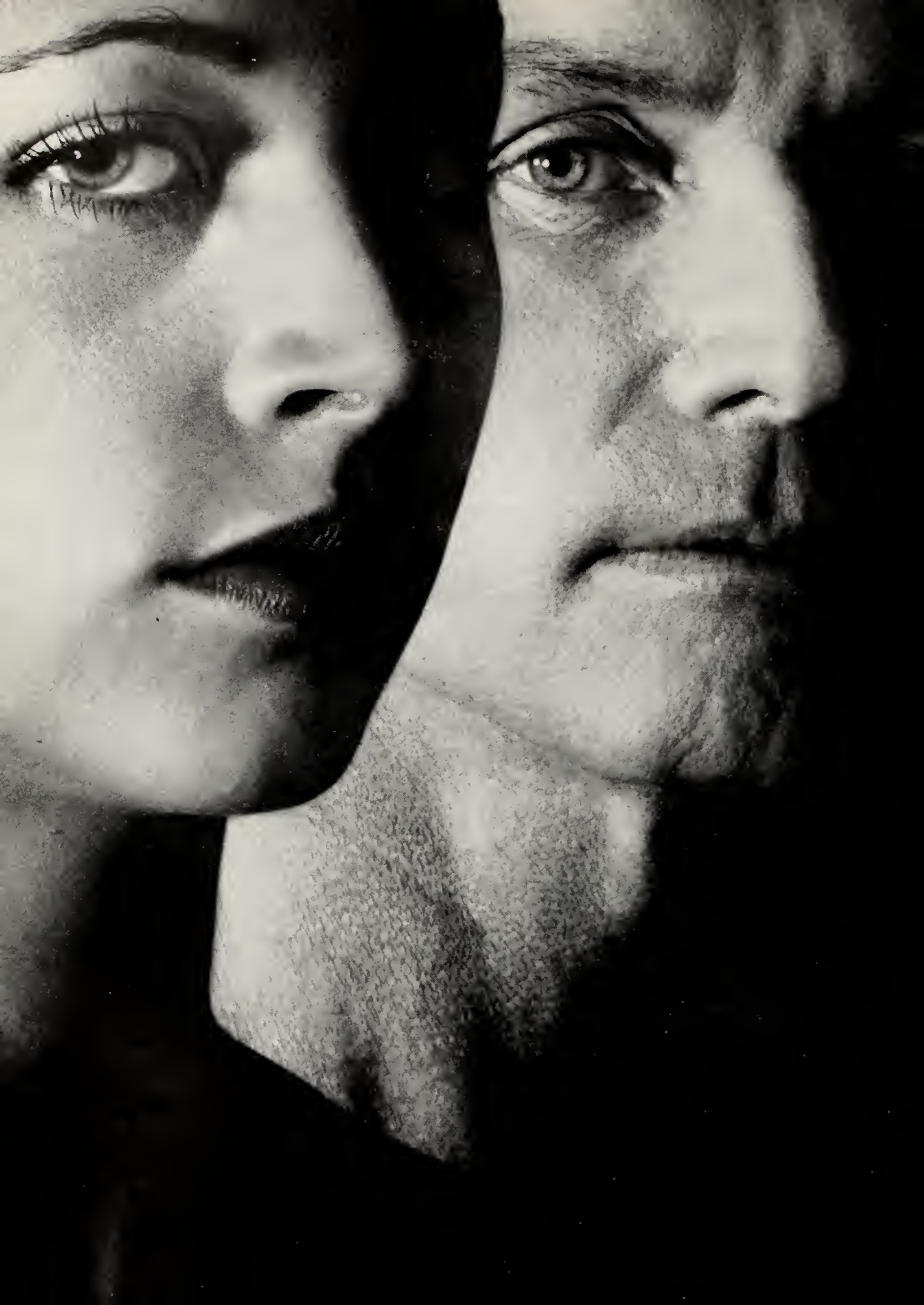

Testing in Humans: Who, Where & When.

the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

P·M·A
Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D. C. 20005

Book Reviews

PRACTICAL PSYCHIATRY FOR THE PRIMARY PHYSICIAN, by James R. Hodge, M.D., Chicago, Nelson-Hall, 1975. 357 pages. $15.00

This book is written by a psychiatrist who has been involved for several years as a seminar leader in the Ohio Academy of Family Physicians' Continuing Education in Psychiatry Project. Foreword is by Joseph B. Fisher, M.D., Chairman of the American Academy of Family Practitioners Committee on Mental Health.

In his preface, the author states that this book is written for family physicians who are not primarily interested in psychiatric theory except as a simple, practical, and relevant background for an understanding of how they can handle psychiatric aspects of medical practice. "This is not a comprehensive textbook of psychiatry; it is primarily a practical how-to book." The author, therefore, has attempted to write a book for the primary physician with the minimum amount of theory necessary for treating the emotional and behavioral problems of medical patients.

The book is organized into several sections: the first 11 chapters present a theoretical framework for understanding psychiatric symptomatology. Chapters 12 through 21 attempt to explain the principles and strategies of various psychiatric treatment techniques, and Chapters 22 through 30 attempt to give practical suggestions for the treatment of certain emotional and behavioral disorders. Chapter 31, probably the best chapter, explains how to use the psychiatrist as a consultant or as a person to whom to refer patients.

In general, the book falls far short of the author's stated purpose. The chapters on psychiatric theory attempt to explain too much and, as a result, give a too superficial view of too many theoretical approaches to be of value to most physicians. These chapters may be helpful to those few physicians who would like a quick overview of the multiple theoretical approaches to psychiatry. Of these chapters, Chapter 4: "Understanding Psychiatric Illness," Chapter 17: "The Process of Psychiatric Illness," and Chapter 21: "Understanding Depression" are the best written for the primary physician.

This reviewer did not think that the chapters on treatment techniques sufficiently fill the author's criteria of a "how-to" book. The chapter on the use of psychotrophic drugs, an extremely important topic for most primary physicians, is filled with recommendations which run counter to the best practice in the use of these drugs. One must believe, from this chapter, that the author is not familiar with current literature on the use of psychotrophic drugs.

There is certainly a need for a book which fulfills the purpose stated by the author in his preface. Unfortunately, in the opinion of this reviewer, this book does not satisfy that need.

D. Robert Fowler, M.D.

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LIFESAVING RESCUE AND WATER SAFETY. Prepared by The American National Red Cross. Garden City, N.Y., Doubleday & Company, Inc., 1974. $2.25.

The lifesaving textbook by the American National Red Cross is complete with textual explanations and vivid illustrations to make this manual professionally comprehensive as well as easily understood. The most fundamental part of water safety is the ability to recognize and to avoid hazardous situations, in addition to the ability to fathom the average swimmer's limited capabilities. The Red Cross manual describes in full the dangers of the aquatic environment — from weather and currents to noxious plant and animal life. Every conceivable rescue approach and apparatus is detailed. Lifesaving techniques have been tremendously modified within the last five to ten years; and this lifesaving book is an authoritative resource useful to all persons interested in, or around the water.

Catherine Sleicher

⚓ ⚓ ⚓

(Continued on Page 44)

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BOOK REVIEWS

(Continued from Page 42)

CURRENT SURGICAL DIAGNOSIS AND TREATMENT by J. Englebert Dunphy, Lawrence W. Way, et al. Los Altos, California, Lange Medical Publications, 1975. $15.00

This is the second edition of this excellent soft-covered comprehensive textbook of surgery. Of the 70 contributing authors, all but five are from California. In fact 62, of the remaining 65 are from the University of California School of Medicine at San Francisco, where Dunphy and Way hold forth, and three are from Stanford at Palo Alto. Thus, there is a peculiarly unified approach to this collection of essays on the practice of surgery. Doctor Dunphy, the distinguished and amiable Senior Editor and Professor of Surgery at the University of California at San Francisco Medical School, is well known to the older generation of surgeons in New England. He is an alumnus of the Harvard Medical School and was trained, practiced, and taught at the Peter Bent Brigham Hospital for many years before turning his eyes westward.

The opening chapter, written by Dunphy, himself, and titled "Approach to the Surgical Patient," has a subtitle "Building the History," which states: "History taking is detective work. Preconceived ideas, snap judgments, and hasty conclusions have no place in it. The diagnosis must be established by inductive reasoning." The chapter includes a discussion of "The Patient's Emotional Background" and is updated by a brief explanation of "The Problem-Oriented Record."

The opening chapter is followed by standard but very current chapters on Pre- and Postoperative Care. The physiological discussions are sophisticated and timely. There are further chapters on postoperative complications, special medical problems in surgical patients, legal medicine for the surgeon, radiation therapy, and nuclear medicine.

Following these sumptuous **hors d'oeuvres** are the classical standard sections on wound healing, inflammation, fluid and electrolyte therapy, metabolism and nutrition, anaesthesia, shock, trauma, and burns. The more traditional subjects follow, such as tumors of the various regions and organs, and system reviews.

This excellent comprehensive volume, comprised of 1123 pages and 51 chapters, is a virtual postgraduate course in general surgery. It is an ideal text for those pursuing continuing education in this taxing specialty.

Doctor Dunphy expounds his philosophy in these words: "The successful management of surgical disorders depends upon two equally important things: (1) the effective application of a broad knowledge of the basic sciences to the problems of diagnosis and total care before, during, and after the operation; and (2) a genuine sympathy for, understanding of, and indeed love for the patient. The surgeon must be a doctor in the old-fashioned sense, an applied scientist, an engineer, an artist, and a minister to his fellow man."

The second edition was designed and updated to conform to the initial aim of the Editors: "To provide medical students, residents, and practicing surgeons and physicians with the essential and recent developments in all fields of surgery." It succeeds in this goal exceedingly well.

It is impressive that translations are in preparation in Spanish, Italian, German, Japanese, Portuguese, and Serbo-Croatian.

Highly recommended.

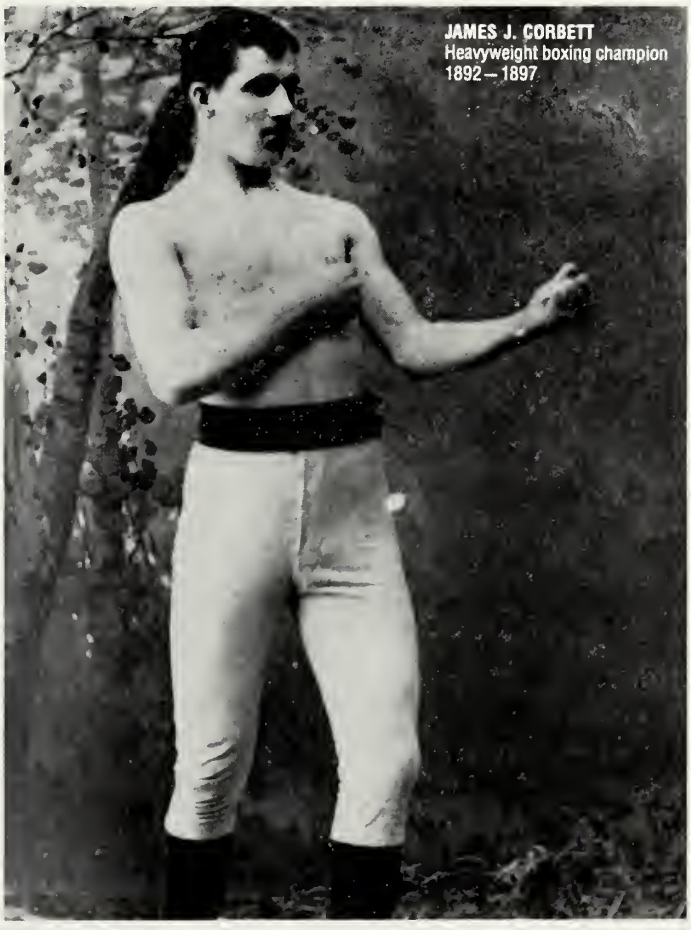
Seebert J. Goldowsky, M.D.

HEROIN ADDICTION IN BRITAIN. What Americans Can Learn from the English Experience, by Horace Freeland Judson. New York and London, Harcourt Brace Jovanovich, 1974. $6.95.

In terms of number of pages this is a small book of only one hundred and fifty-six pages. Yet, reading it to completion seems interminable. From the title, obviously, one seeks to learn about heroin addiction in Britian and especially what Americans can learn from the English experience. In the end the reader is left dangling. Of course, the entire problem of drug addiction and abuse (as it is preferentially referred to these days) is admittedly complex, involving a multiplicity of issues in-

(Continued on Page 45)

Famous Fighters



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BOOK REVIEWS

(Continued from Page 44)

cluding terminology, epidemiology, etiological factors, management and treatment modalities (of which there are a goodly number), legal aspects, and police enforcement. But this book, rather than clarify and shed light, further confuses. Being a writer and not a physician, the author earnestly strives to document his views and his total presentation so thoroughly that in fact what comes out appears frequently disjointed and fragmentary. Hence, there is no original experimental investigation, but rather a conglomeration of individual British opinions, views, castigations and sometimes contradictions not only in the views expressed by a particular individual, physician, psychiatrist, or politician, but also in the author's presentation, all of which compels the reader constantly to remind himself that he is trying to arrive at two things, namely the problem of heroin addiction in Britain and what Americans can learn from the English experience.

Undoubtedly the author interviewed a goodly number of British professionals and liberally makes use of direct quotations, which, again, are mostly individual opinions relating to such matters as concepts of heroin addiction, proceeding to techniques of management and treatment. One very clear (already known) observation made by the author is that, unlike American practices at least at this time, heroin addicts are treated by the modality of **heroin maintenance.** In England heroin maintenance has been for years the preferred and essentially the only method of treatment. In the earlier years, before 1968, the general practitioners or the general physicians, scattered throughout England, where the dispensers and therapists of heroin maintenance. From 1968 apparently up to the present — largely as a result of a considerable increase in the incidence of heroin addiction (increase by British figures) — this function of the general physician was terminated and treatment clinics were established. The impression is that the establishment of local clinics in various locations including London was a remarkable achievement or far more preferred than treatment and management by individual physicians. The establishment of the clinic facilitated the identification and registration of current and new heroin addicts with the Central Home Office.

The point is frequently made that both the incidence and prevalence of heroin addiction in England has always been and continues to be very low. In the earlier years only several hundred addicts are said to have existed. Hence in the ten years prior to 1968 the total number of addicts starting in 1958 is given as 442, and from then on each year saw a gradual increase, so that by 1967 the total had risen to 1,729. This is the total number of addicts of **all** narcotics. However, the incidence and prevalence of specifically **heroin** addiction proportionately increased during this period starting with 62 in 1958 up to 1,299 in 1967. A distinction is made between therapeutic and non-therapeutic heroin addiction, and, not surprisingly the prevalence in 1967 was much greater for non-therapeutic heroin addiction, numbering 1,290 as opposed to only 9 therapeutic addictions. During this ten year period there was a continuing increase in the incidence or **new** cases of heroin addicts ranging from 8 in 1958 to 745 in 1967.

The point is made that this "epidemic" apparently was the overriding reason for removing from the hands of individual practitioners the treatment of heroin addition and placing it in the establishment of clinics. The highest figure offered in this book with regard to the prevalence of heroin addition in England is less than 4,000. Hence, the author is making two points regarding heroin addiction in Britain. First, the establishment of clinics and, second, the maintenance program with the use of heroin itself. This is not to say that **methadone** is not in use; in fact it is. Nor is it to say that the goal is ideologically the maintenance of heroin addiction either indefinitely or for an addict's lifetime. However, it is to say that this is approximately the impression one receives, for the British attitude towards the drug, **heroin**, and the condition of heroin addiction is apparently significantly different from the American attitude.

Withdrawal reactions are viewed seemingly lightly by the physician, and apparently the withdrawal reactions themselves are much less intense, painful, or unpleasant than in the American experience. From time to time the

(Continued on Page 48)

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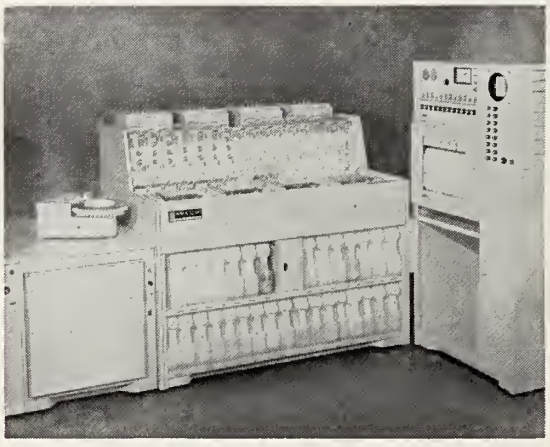

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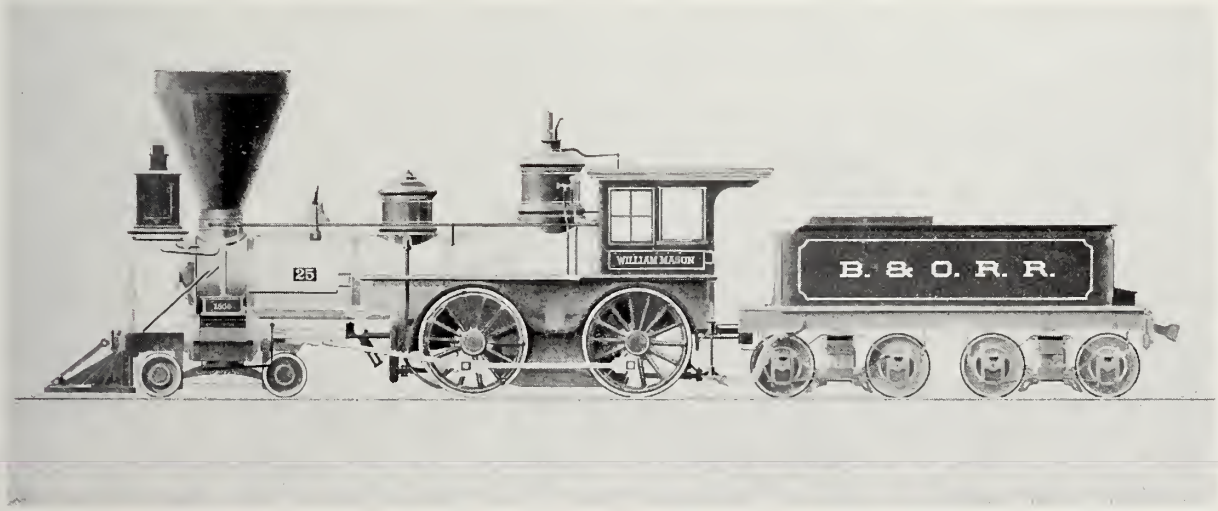

The William Mason (1856)

(Continued from Page 45)

issue of differences in the British and American character is raised, but the author and the British physicians appear to make very light of this factor. This reviewer is not so certain. The American experience, in terms of incidence and prevalence, dwarfs the British experience. Figures recently released within the past year to local American newspapers indicate that, of the nineteen million males aged twenty to thirty, close to one million have used heroin. Close to two-and-a-half million have used cocaine and, of interest, from nine to twelve million have used marijuana. Hence, simply in terms of numbers one sees a marked difference in the American and British experience.

One very significant difference between the two countries resides in the fact that in Britain now heroin addiction is treated exclusively by physicians who are psychiatrists. In America, regretably, the psychiatrist if indeed present at all is underutilized and undervalued. This fact plus the author's insistence on the "medical model" would appear to be something that Americans can learn from the British experience. On balance here, perhaps American psychiatrists have contributed to their own devaluation with regard to drug addiction.

In approximately the last ten pages of this book the author concentrates on what Americans can learn from the British experience which, in this reviewer's opinion, doesn't appear significantly more than mentioned. Perhaps the observation should be stated the other way around — what the British can learn from the American experience and indeed have (i.e. Therapeutic Communities). The author indicates that opponents of **heroin maintenance** for the United States have a number of objections, "often put with great emotional intensity." There is the objection against the characteristics of the drug itself, that addicts given the choice will always prefer heroin (presumably over methadone and other similar detoxifying drugs), that it is not possible to stabilize heroin dosages, and that heroin addicts lead chaotic lives. To these objections the author indicates that the English experience responds clearly, namely that heroin addicts differ (among themselves), that there can be stable heroin addicts able to manage their dosage and their lives, and that a clinic offers sensible psychiatric and social services besides drugs and where the physician can select other drugs besides heroin can help a high proportion of addicts to live "more healthy, more sanely and more effectively in society."

Again, American opponents fear that heroin maintenance clinics in the United States would make addiction spread faster, lessen the social disapproval of heroin, decrease the risk of experiment or occasional use, and even increase the supply, since only the most widely liberal clinics could keep the addict from going right back to his ilicit source for more drugs. Apparently, the author subscribes to the view expressed by an American psychiatrist, whom he quotes, that it is possible to "cultivate different social attitudes toward powerful drugs, in fact, the attitudes which need to be taken still further than the British themselves have yet succeeded in doing but which, if they can be developed, may provide the only civilized hope of bringing the drug under control." This attitude is compared to that concerning alco-

(Continued on Page 49)

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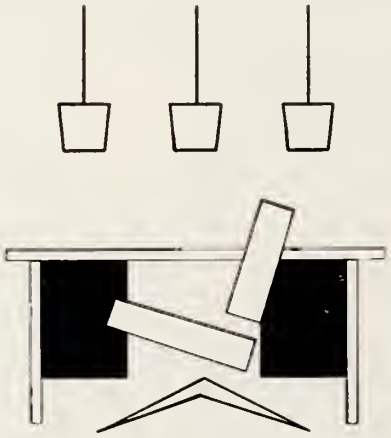

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Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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- Stage 3
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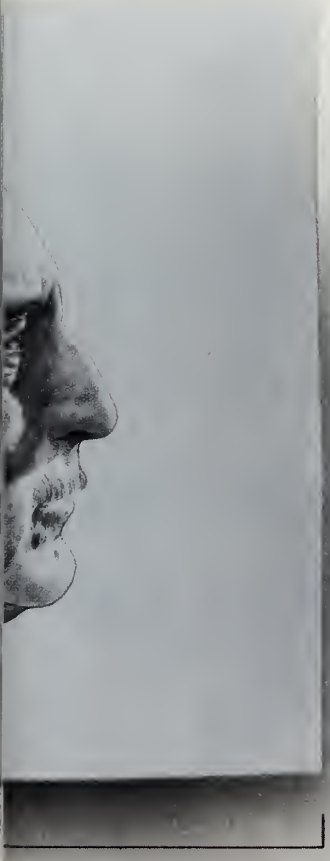
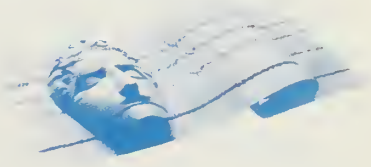


Awake too early



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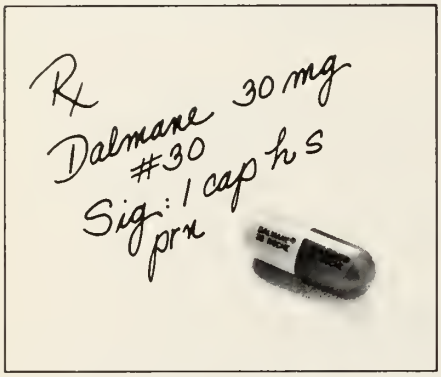

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Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

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REFERENCES:

1. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

2. Frost JD Jr: A system for automatically analyzing sleep. Scientific exhibit at the 24th Clinical Convention of the American Medical Association, Boston, Nov 29-Dec 2, 1970; and at the 42nd annual scientific meeting of the Aerospace Medical Association, Houston, Apr 26-29, 1971

3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

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hol, which allegedly is now very much "socially ritualized" and presumably has achieved a "fair degree of control." This is an amazing declaration considering the enormity of the American alcohol problem. In fact alcoholics are appearing at an earlier and still earlier age. The author quotes a British physician, "I don't see the American methadone clinics as medical, but as technological." "In the American mind there seems to be these two strands, first, the **fundamentalism** or **salvationism** or **utopianism** and second, the technological." Continuing the quotation the British physician states, "I think the bitter enmity between your abstinent therapeutic communities and your methadone clinics embodies the deep schism in the American soul between fundamentalism and its technology." This indeed introduces a very much neglected ingredient, not only in the book itself, but in the whole conceptualization of the problem, namely the various **attitudes** or particular "philosophy" in America and in England.

This reviewer finds it disappointing to contemplate the philosophic implications surrounding the question of drug addiction. Hence, one wonders about idealism versus absolutism, capitulation and surrender to lesser and even least values (reductionism). Pragmatism, utilitarianism, defeatism, and hedonism appear to be in ascendancy. In the last few pages there is this quotation by a British physician, "Some people here obviously get virtually free of drugs through methadone programs; these people I would guess are the more stable addicts anyway. But apart from them I think there are people who need a therapeutic community of some sort — who need a much more **radical reprogramming.**" The author then indicates that there are only four such communities for ex-addicts in England, and they are all derived directly from the early American model, Phoenix House. Thus, it would seem, that the Americans, still with too many faults and weaknesses in the management of heroin addiction, have taught the British something.

It is to be hoped that Americans have not yet or ever will abandon the idealism so inspiring to the founders of this young nation and degenerate into accepting an exclusively positivistic ideology.

Dominic L. Coppolino, M.D.

Books Received For Review

The Editor acknowledges the receipt of the following books and thanks the publishers for sending them. We shall have as many as possible reviewed. The volumes are greatly appreciated and will be added to the Library's collection where they will be available for readers.

KEEPING FOOD SAFE. The Complete Guide to Safeguarding Your Family's Health While Handling, Preparing, Preserving, Freezing, and Storing Food at Home, by Hassell Bradley and Carole Sundberg. Garden City, New York, 1975. $7.95.

THE BROAD RANGE OF USE OF DIPHENYLHYDANTOIN. Bibliography and Review, by Samuel Bogoch and Jack Dreyfus. 2 volumes. New York, The Dreyfus Medical Foundation, 1970, 1975

REVIEW OF MEDICAL PHYSIOLOGY, by William F. Ganong. 7th edition. Los Altos, California, Lange Medcal Publications, 1975. $10.50

REVIEW OF PHYSIOLOGICAL CHEMISTRY, by Harold A. Harper. 15th edition. Los Altos, California, Lange Medical Publications, 1975. $10.00

HYPNOSIS IN THE RELIEF OF PAIN, by Ernest R. Hilgard and Josephine R. Hilgard. Los Altos, California, William Kaufmann, Inc., 1975. $12.50

PRACTICAL PSYCHIATRY FOR THE PRIMARY PHYSICIAN, by James R. Hodge. Chicago, Nelson-Hall Publishers, 1975. $15.00

TALK BACK TO YOUR DOCTOR. How to Demand (and Recognize) High-Quality Health Care, by Arthur Levin. Garden City, New York, Doubleday & Company, Inc., 1975 $7.95

TEXTBOOK OF BASIC EMERGENCY MEDICINE. Edited by Robert H. Miller in Collaboration with James R. Cantrell. Saint Louis, The C. V. Mosby Company, 1975.

HOW TO BEAT FATIGUE, by Linda Pembrook. Garden City, New York, Doubleday & Company, Inc., 1975. $6.95

THE VITAMIN C COOKBOOK. The Way to Better Food and Better Health at Less Cost, by Cory SerVaas and Walter Mathews. Garden City, New York, Doubleday & Company, Inc., 1975. $6.95

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Clinical Assessment Of T And B Lymphocyte Functions

A Wide Variety Of Tests Is Now Available For Comprehensive Screening

By Patricia Farnes, M.D.

Recent advances in basic immunology have produced, and are continuing to produce, rapidly increasing interrelations between laboratory and clinical perceptions of white blood cells and their functions. As Ritt has recently pointed out, "clinical immunology" has no definitive identity as an isolated subspecialty; rather, applications of laboratory investigations to the bedside are becoming pervasive and are of varying degrees of practical clinical value in a wide variety of subspecialty problems. In almost every lecture on the subject which I have given in the past year or two there has been a plea with the invitation to "tell when such tests ought to be done." In this review I will include a discussion not only of which tests are available for lymphocyte functions, but also of some of the more fruitful applications in clinical practice. In fact, it is important to emphasize at the outset that individual tests, unless taken in clinical context, are not only of limited value but also may be misleading.

PATRICIA FARNES, M.D., *Associate Professor of Medical Science, Brown University; Hematologist, Department of Pathology, Rhode Island Hospital.*

Adapted from a presentation at Regional Meeting of the American College of Physicians, Providence, Rhode Island, October 31, 1975.

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Traditional thymus-dependent (T) and bursa-equivalent (B) lymphocyte functions have been defined, and are usually discretely categorized as relating to cellular immunity (delayed hypersensitivity, graft rejection) or to humoral immunity (antibody production) respectively.[1, 2] Participation in the specific functions of either set is usually associated with a change in the state of differentiation of the cell to a physiologic level which permits production of special proteins, and initiation of deoxyribonucleic acid (DNA) synthesis for cell division (Figure I). In this way, increasing numbers of responsive lymphocytes are amassed. Most lymphocyte function studies directly or indirectly measure different phases of this modulation process or its products. For instance, lymphocyte blastogenesis measures ability of the cells to undergo activation and synthesize DNA. Or, production of certain proteins (lymphokines) can be measured directly or inferred from a complex **in vivo** response, as in skin delayed hypersensitivity reactions.

So far, I have suggested that it is all fairly clear-cut. Now I would like to introduce a little more realistic perspective which is important to interpretation of white blood cell studies in general. It is an uncomfortable fact that some T lymphocyte, B lymphocyte, and granulocyte functions share various degrees of interaction and interdependency

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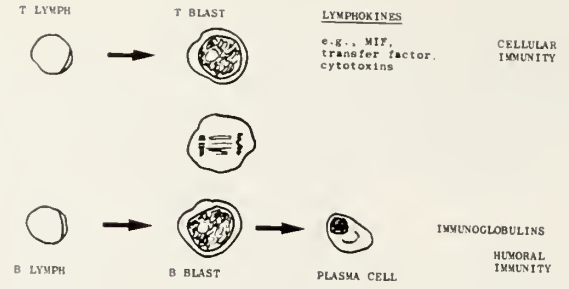


Figure I

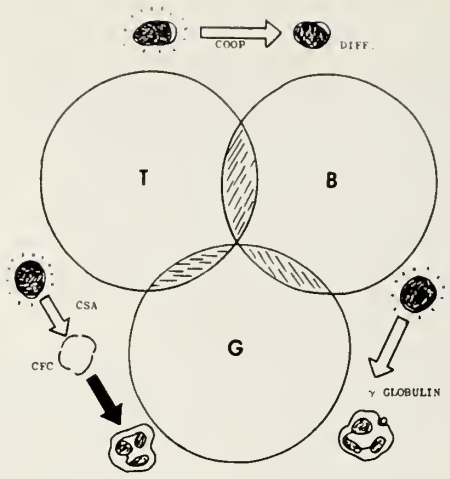
Both T and B lymphocytes undergo "blastogenesis" to a more activated differentiation state to produce special products, and to divide. B lymphocytes undergo plasmacytic differentiation in association with immunoglobulin production.

(Figure II). The hatched areas represent these interactions, but they are not intended quantitatively to reflect the actual importance of the "overlaps." Accumulating evidence suggests that in the case of T and B lymphocytes, the significance will be substantial.

There is ample evidence that an undetermined fraction of B lymphocyte response is T-mediated;[3] moreover, some T lymphocyte response may be B-mediated.[4] T lymphocytes also play a role in production of colony-stimulating activity,[5] which can influence differentiation of CFUc (colony-forming cells) into granulocytic elements. Also, granulocyte function is partly dependent upon products from B lymphocytes, as exemplified by opsonin-dependent phagocytosis by neutrophils of certain pathogenic microorganisms. These interactions are of undetermined clinical importance, but lesions in the system may be significant more often than we currently realize. In one form of variable immunodeficiency, failure of T cell-B cell cooperation may lead to B cell failure;[6] a final result is expressed clinically as compromised neutrophil phagocytosis.

Obviously, then, some tests could measure more than one function, and this may be the case far more often than we assume. Both B and T lymphocytes may participate in some phenomena (e.g. mixed leukocyte culture,[7] target cell kill[8]). In some leukemias, the malignant cells posess both T and B markers simultaneously.[9] Both B and T lymphocytes are stimulated by one mitogen (pokeweed mitogen).[10]

In addition, functions may be disassociated between sets, or within a set. T cells may be



INTER-RELATIONS OF T LYMPHOCYTE, B LYMPHOCYTE, GRANULOCYTE FUNCTIONS

Figure II

competent, while B cells are not. Or, cells of either class may accomplish some functions and fail to perform others. These examples are intended to demonstrate that, if testing is undertaken, it should usually be comprehensive, with an eye to discovering whether isolated deficiencies can be demonstrated, or whether patterns of abnormality typical of certain diseases emerge.

CLINICAL APPLICATIONS

Clinical uses of lymphocyte function studies can be divided into three main groups (Table I): diagnostic, prospective, and adjunctive. In some cases, T and B lymphocyte studies delineate **diagnostic** or nearly diagnostic criteria of particular clinical disorders. Most of these examples relate to diseases encountered in pediatric practice: congenital immunodeficiency disorders, selective clonal failures, special patterns of mixed cellular and humoral deficiencies, or specific alternations in immunoglobulin synthesis.

Prospective studies of lymphocyte function

Table I

SOME PRACTICAL CLINICAL USES OF T/B LYMPHOCYTE FUNCTION TESTING

DIAGNOSTIC:	Specific defined immunodeficiency syndromes: e.g. SCI, selective clonal failure, serum inhibitors, selective dysproteinemias.
PROSPECTIVE:	Suggestive evidence that comprehensive screening and follow-up of T/B parameters may be predictive of response to chemotherapy: e.g. leukemias, lymphomas, solid tumours. Tissue matching for homograft compatability.
ADJUNCTIVE:	Failure or modification of T/B functions in association with specific groups of clinical disorders: e.g. lymphomas, sarcoidosis, autoimmune disorders, infectious diseases.

Table II

CLINICAL ASSESSMENT OF T CELLS AND THEIR FUNCTIONS

	Test	Method	Normal Result
□*1.	T Lymphocyte enumeration	AET rosette	% (2SD): 72+22; Absolute 1736+515
*2.	Lymphocyte size	Micrometry	9-12 μ
*3.	Thymic shadow	Radiography	often present
□ 4.	DH Response to antigens	ID testing (battery)	usually, one or more +
□*5.	DNCB sensitization	skin application, challenge 14d.	spontaneous flare, 14 d., response to patch challenges
□*6.	Lymphocyte blastogenesis	**in vitro** stimulation of H^3T incorporation with PHA, PWM	maximum peak at 3d. comparable to control range (η 45,000 cpm)
7.	MLC	**in vitro** stimulation of H^3T incorporation by allogeneic lymphocytes	maximum peak at 5-6 days in incompatible subjects
8.	MIF	inhibition of macrophage migration by MIF from sensitized lymphocytes	40-50% inhibition
9.	Homograft rejection	skin homograft	rejection within ν 2 weeks
10.	Lymph node architecture	lymph node biopsy	abundant para-cortical lymphocytes

*Most useful in infants and young children
□Most useful in adults

are of increasing interest to workers in the oncology fields. Successful lymphocyte performance in T cell function test systems has been cautiously related to prognosis and therapy response in a few instances. Acute Leukemia Group B has recently instituted a comprehensive testing program in conjunction with immunotherapy trials. The mixed leukocyte culture is used prospectively with histocompatability antigen (HLA) testing to help determine prospects of donor-recipient compatability.

Probably the most widespread uses of lymphocyte function studies at present are **adjunctive,** that is, they can provide supportive evidence (as do many more familiar laboratory studies) for or against certain general disease categories or specific diseases. It is important to emphasize that studies, especially in the interpretation of T lymphocyte tests, are susceptible to valid interpretation only in the total clinical context. Moreover, it is usually the overall picture obtained from comprehensive testing that is the most valuable from a diagnostic standpoint.

FUNCTIONS OF T LYMPHOCYTES

A number of clinical and laboratory parameters relating to T lymphocyte function are listed in Table II. The normal ranges provided are those established and statistically analyzed for normal subjects in our own laboratory. We have defined normal subjects as members of an adult donor pool with no recent history of immunization, allergy, infection, or medication use (including hormones). These criteria are seldom specified in the literature, but they are essential for obtaining valid control information.

Patients are studied prior to chemotherapy or radiation, and must have received no steroids or other interfering medication in the prior two weeks. Most assessments of patients with malignancy which have appeared in the literature derived their data from mixed bags of treated, pre-treated, and untreated patients. However, most of the parameters listed in Table II are profoundly altered by steroid therapy, radiation, chemotherapeutic agents, and infectious processes, as well as by a variety of hormonal and various medicinal agents. The protein-calorie nutritional state influences test results. The most useful tests for adults are T enumeration, delayed hypersensitivity (DH) response to antigens, the dinitrochlorcbenzene (DNCB)

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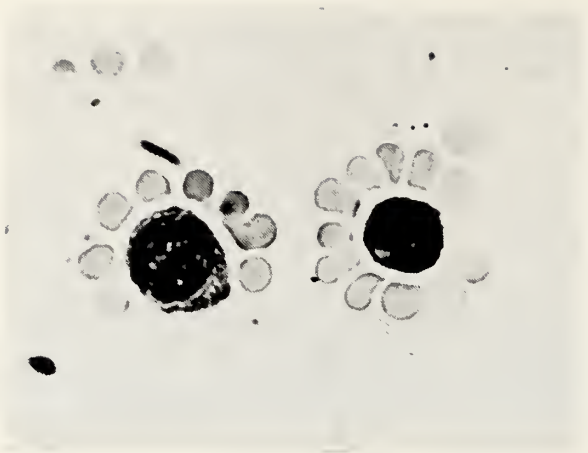

Figure III
"Rosette" formation by lymphocytes from normal human blood, incubated with sheep erythrocytes. Usually 60-70 per cent of circulating lymphocytes rosette.

sensitization, and lymphocyte blastogenesis response. The mixed leukocyte culture (MLC), migration inhibition factor (MIF), and histologic techniques are usually reversed to study special problems. It is worth noting that studies of cellular immune parameters in the course of infections, and for several weeks thereafter, can give results which show deficient function, and do not necessarily provide a realistic picture of the patient's fundamental immune status. For instance, delayed hypersensitivity responses may become transiently negative during measles, infectious mononucleosis, and disseminated tuberculosis.[11]

T lymphocytes form rosettes **in vitro** with sheep erythrocytes (Figure III), and absolute numbers of T lymphocytes per volume of blood can be calculated. The technique is exceedingly sensitive to technical error, and false-low results are frequent in inexperienced laboratories.

Dermal responses to common antigens (Table III) measure immunologic recall — that is, recognition of and response to an antigen which has previously sensitized a lymphocyte clone. The use of a battery of antigens is usually indicated, for reasons which are evident in Table III. In normal populations, there is no one antigen which consistently evokes positive responses in all subjects. A negative response to streptokinase-streptoclornase (SK-SD), mumps, or purified protein derivative of tuberculin (PPD) is not, therefore, evidence of anergy. In the experience of most investigators, normal subjects over the age of six years respond to one or more antigens.[12] We do not know whether individuals who respond briskly to many antigens possess any fundamental biologic advantages over those who have a modest response to one only. Failure to respond may indicate lack of prior sensitization. But failure to respond may relate to many factors which are independent of T cell antigen recognition. Failure of neutrophil-mediated inflammatory response, as has been demonstrated in cirrhosis,[13] is an example. The failure may also be iatrogenic — i.e. poor technique in producing a satisfactory intradermal wheal.

Skin responses are immediate (15 minutes, immunoglobulin E [IgE]-mediated), later (4-6 hours, IgG-mediated), or delayed (16-72 hours, T cell-mediated). There has been considerable recent discussion about the significance of criteria for positive delayed responses,[14, 15] and the new attention to the problem may result in revision. Currently, a positive reaction is taken by most observers as 10 mm of induration (with or without erythema) at 48 hours. With mumps antigen, 24 hour erythema is measured.

DNCB tests the ability of the patient to become sensitized to a new antigen. DNCB is a hapten which combines with skin — or leukocyte — protein to form a complete antigen. A sensitizing dose of 2000 ug is placed on the skin. Inflammation develops, and then subsides. When a sensitized clone develops (usually at about two weeks), a spontaneous flare appears at the original site, where anti-

TABLE III

ANTIGEN	DOSAGE	% RESPONSE
Candida	1:1000; 1:100	20-30%
Mumps	0.1 ml standard	>80%
PPD	5U	variable
SK-SD	2.5/10U; 10/40U	>80%
Trichophyton	1:100; 1:30	<25%
Histoplasmin	0.1 ml standard	rare
Coccidioidin	0.1 ml standard	rare

Per cent responses are approximate for normal adults in this community. PPD responsiveness varies in ethnic and socioeconomic groups.

Table IV
CLINICAL ASSESSMENT OF B CELLS AND THEIR FUNCTIONS

Test	Method	Normal Result
□*1. Enumeration of B lymphocytes	immunofluorescence	% (2SD): 4-36%; 944-32 Absolute
□*2. Immunoglobulins	immunodiffusion	variable (IgG 710-1540; IgM 37-261; IgA 6z-490)
*3. Presence of lymphoid tissue (tonsils, nodes, adenoids)	physical exam Radiography	present
□*4. Isoogglutinins	Anti-A, Anti-B (IgM)	1:16, 1:8 +
□*5. Schick Test	Intradermal Diphtheria Toxin	If immune, negative at 5 days
□*6. PWM blastogenesis	incorporation of H^3T in vitro	comparable to control range (ν 30,000 cpm)

*Most useful in infants and young children
□Most useful in adults

gen is retained in the skin (Figure IV). Challenges at 10-50 ug doses are placed on the opposite arm to quantitate the response. Normal subjects undergo sensitization, usually develop a flare, and respond to one or more challenges.

Lymphocyte blastogenesis refers to the ability of peripheral blood lymphocytes to undergo activation and cell division in response to mitogens or antigens. Phytohemagglutinin (PHA) is a lectin which activates a large proportion of normal human blood T lymphocytes. DNA synthesis after three days in culture is measured by incorporation of tritiated thymidine (H^3T) /standard number of cells. In Figure V, normal ranges and representative values in disease states are illustrated. Blastogenesis is grossly deficient in some patients with lymphoproliferative disorders, infections, granulomatous processes, and neoplasms. On the other hand, some patients with flagrant malignancies perform well on this test. Sometimes slight impairment can be demonstrated by testing with diluted mitogen.

FUNCTIONS OF B LYMPHOCYTES

Some of the most useful tests for B lymphocyte functions are shown in Table IV. They include B cell enumeration, serum immunoglobulins, the Schick test, and pokeweed mitogen (PWM) blastogenesis.

Enumeration of blood B lymphocytes is performed by an immunofluorescent technique in which specific anti-IgG, -A, or -M is fluorescein labelled, and presented to the cells. Cells which possess surface receptor sites for these immunoglobulins show fluorescence. Some B lymphocytes also possess surface receptor sites for complement, which can be demonstrated by a technique utilizing anti-complement-coated erythrocytes. As well as determining circulating B cell numbers, the method allows distinction of abnormal lymphocyte clones.

Serum immunoglobulins are usually measured by immunodiffusion or immunoelectrophoretic techniques. In most clinical laboratories, IgG, IgA, and IgM are specified. Normal values for these components are partially age- and sex-dependent. It is well known that elevation of immunoglobulins is associated with certain diseases — for instance, infections, granulomatous processes, certain liver diseases, and autoimmune disorders, as well as "immunoproliferative" diseases — are associated with depressed immunoglobulins. Selected immunoglobulin alterations are receiving increased attention and may prove of clinical importance. Isoagglutinins are IgM proteins, and the titres can be measured by dilution. Most normal anti-A titres are

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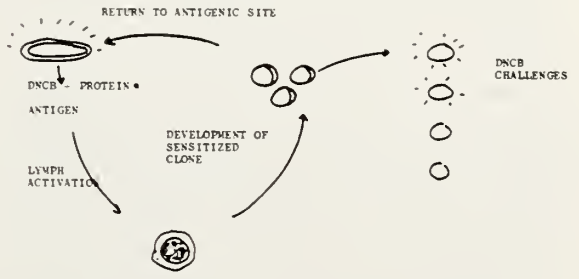
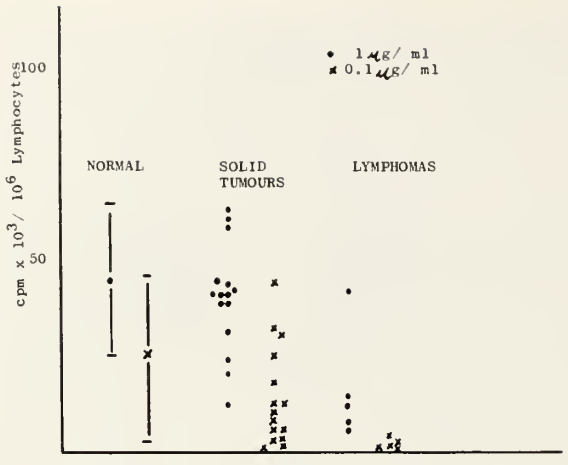


Figure IV

After two weeks, a spontaneous flare with redness itching, and vesiculation normally develops. Challenges of smaller amounts produce similar skin reactions.



IN VITRO PHA BLASTOGENESIS RESPONSES OF NORMAL CONTROL SUBJECTS AND UNTREATED PATIENTS

Figure V

1:16 or greater, while most anti-B titres are at least 1:8.

The intradermal Schick test (diphtheria toxin) is a useful screen in subjects who have a high probability of diphtheria immunity, either by history of immunization or infection. If humoral antibody is present, no reaction will occur at the injection site, since the toxin is neutralized. If antibody is absent, erythema and induration appear (which can progress to ulceration).

The pokeweed mitogen is mitogenic for some portion of T and some portion of B lymphocytes in the peripheral blood. Since there is severe impairment of PWM response in chronic lymphotic leukemia (CLL) and in certain immunodeficiency syndromes, and since no pure B cell mitogen exists for human blood lymphocytes, it is usually used as the second mitogen in lymphocyte blastogenesis testing. Frank B lymphocyte failure is associated with a deficient response (Figure VI).

The lymphocyte **in vitro** culture system can be used to test lymphocyte responses to specific antigens. Patients who fail to respond to skin tests may show responses when lymphocytes are incubated **in vitro**. The test provides a way to discriminate between true clonal failure and skin-test failure due to other causes.

A variety of T and B lymphocyte tests is now available and is applicable to a wide variety of clinical problems. For maximum information, comprehensive screening is usually the best approach.

SUMMARY

Although T lymphocyte functions are primarily cellular, and B lymphocyte functions primarily humoral, there is substantial overlap and interaction. Clinical uses of lymphocyte functions may be diagnostic, prospective, or adjunctive. Comprehensive testing of many parameters of function provides the best opportunity for assessment of immunocompetence. Useful T lymphocyte function tests in adults are: T lymphocyte enumeration (ability to form rosettes with sheep erythrocytes), recall response to intradermal antigens, ability to become sensitized to DNCB, and the blastogenic response of lymphocytes to PHA. Many exogenous factors including chemotherapy, radiation, steroids, and infection can profoundly alter these functions. Skin tests should be done as a battery; a negative tuberculin or mumps test does not establish "anergy." Useful B lymphocyte tests in adults include B lymphocyte enumeration (presence of immunoglobulin, complement receptor sites, or both), serum immunoglobulin levels, isoagglutinin titres, the Shick test, and PWM blastogenesis.

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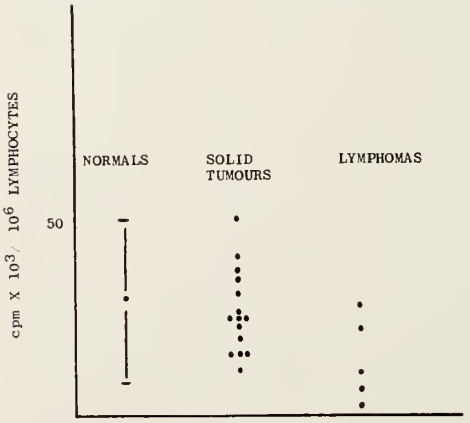

IN VITRO PWM BLASTOGENESIS IN NORMAL SUBJECTS AND IN UNTREATED PATIENTS

Figure VI

Cardiovascular Disease In Uremic Patients On Hemodialysis

Patients On Chronic Maintenance Dialysis Have An Increased Incidence Of Death From Cardiovascular Disease

By J. Michael Lazarus, M.D.; Edmund G. Lowrie, M.D.; Constantine L. Hampers, M.D., and John P. Merrill, M.D.

SCOPE OF PROBLEM

In 1972 the leading cause of death in the United States for all age groups was heart disease, accounting for 38.5 per cent of all deaths. The third most frequent cause of death was cerebrovascular disease, representing 10.7 per cent. One might therefore logically expect that the cause of death in patients with renal insufficiency maintained on the artificial kidney could be related to cardiovascular disease. This indeed is the case. Table 1 compares percentages of death due to heart and central nervous system disease in the United States with various groups of patients on chronic hemodialysis. In the United States population ranging in age between 24 and 45 years, only 13.6 per cent of deaths were due to heart or central nervous system disease. The disturbing observation relates to the percentage of deaths due to cardiovascular disease in hemodialysis patients, whose age range is roughly equivalent to the above population. The mean ages of patients reported in the National Dialysis Registry[1] and from the combined European dialysis population[2] are not given, but can be estimated from information in the papers to be approximately 43.5 and 40 years, respectively. The mean age of Lindner's patients[3] was 37 years, and that of the Peter Bent Brigham Hospital dialysis group was 48.8 years. Thus, hemodialysis patients are dying at younger ages with a greater percentage of cardiovascular deaths than nonuremic populations.

Lindner et al[3], comparing the differences in death rate in their dialysis population with males with familial hypercholesterolemia, indicate the risk of cardiovascular disease to be greater in the dialyzed population. If one compares causes of death in patients with hypertensive disease, the difference between uremic patients is less striking. For example, Perry et al[4], in evaluating the effect of drug therapy in 316 hypertensive patients, recorded 142 deaths in both treated and untreated groups. Thirty-eight per cent of deaths were due to renal failure; however, 41 per cent of deaths were classified as cardiovascular in nature. In a similar study Breckenridge, Dollery, and Parry[5] noted 209 deaths in 1,294 hypertensive patients followed over a 16-year period Thirty-three per cent died from renal failure, but 23 per cent died from cerebrovascular disease, and 26 per cent died from heart disease. The information suggests that uremic patients on chronic maintenance dialysis have a higher cardiovascular death rate than nonuremic patients with lipid abnormalities, but not much greater than a population with treated hypertension. Regardless of cause, the fact remains

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	No. Patients	No. Deaths	Cardiovascular deaths Heart % of all deaths	Cerebral	Total %
U. S. Population					
All Ages			38.3	10.7	49.0
U. S. Population					
Ages 25-45			11.9	1.7	13.6
National Dialysis Registry					
Bryan (1)					
Through 1972					
Mean Age 43.5	7437	2447	34.5	12.4	46.9
EDTA					
Parsons et al (2)					
Mean Age 40	9150	2565	34.7	13.5	48.2
Lindner et al (3)					
Mean Age 37	39	23	52.2	8.6	60.8
PBBH Home Dialysis					
Mean Age 48.8	125	34	41.6	16.5	58.1

Table 1. Incidence of cardiovascular deaths in the United States population for 1972, in four reported dialysis populations

that hemodialysis patients are dying from complications of vascular disease which most assuredly occur secondary to a combination of disorders associated with renal insufficiency, or its treatment, or both.

A clear definition of "cardiovascular death" is in order to obtain a better understanding of how uremia affects an earlier and greater incidence of vascular deaths. For instance, the data of Parsons et al[2] include "heart failure" and "pericardial disease" under the general heading of heart disease. Lindner et al[3] reported eight myocardial infarcts, two hemorrhagic strokes, and four patients with congestive heart failure in their 14 cardiovascular deaths. Of the patients on the Peter Bent Brigham Hospital home dialysis program, there were nine myocardial infarcts, four cerebral hemorrhages, and six "cardiovascular-related" problems. The figures from the National Dialysis Registry also include "other vascular diseases." What comprises "other vascular diseases" and whether they are or are not related to uremia is not clear.

Although the different types of cardiovascular deaths may be casually related to one another, the implication of myocardial infarction is distinctly different from heart failure that is due to fluid overload or hypertension, and severe thrombotic cerebral disease is different from cerebral hemmorhage secondary to malignant hypertension. Some of these problems could be due to inadequate dialysis and might be potentially preventable. Cardiovascular death, then, should be subgrouped into two major categories — heart and central nervous system. Under heart disease the etiology should be further subclassified according to its exact cause. The etiologic classification, as outlined by the New York Heart Association in **Diseases of the Heart and Blood Vessels**[6], would be useful in this regard. One should make some attempt to distinguish arteriosclerotic or coronary artery disease, with or without myocardial infarction, from other causes of congestive heart failure. The role of concomitant hypertension will be difficult to dissect. Other disorders leading to congestive heart failure, such as valvular heart disease, myocardial calcification, infectious myocarditis, and fluid overload, may be more easily identified and should be so indicated. Likewise, deaths, from pericardial disease should be distinguished from those due to myocardial and endocardial disease. With regard to cerebrovascular diseases, one should differentiate between hemorrhagic, embolic, and thrombotic etiologies. Other organ system diseases not caused by renal insufficiency but affecting cardiovascular deaths (e.g., chronic obstructive pulmonary disease, diabetes mellitus, thyrotoxicosis, and so on) should be so indicated. In an effort to determine how changes in current hemodialysis practice may alter the cardiovascular death rate, it must be made clear whether or not patients dying a cardiovascular death possibly did so as a result of inadequate hemodialysis as judged by current techniques. If a judgment as to adequacy of hemodialysis can be made, then the importance

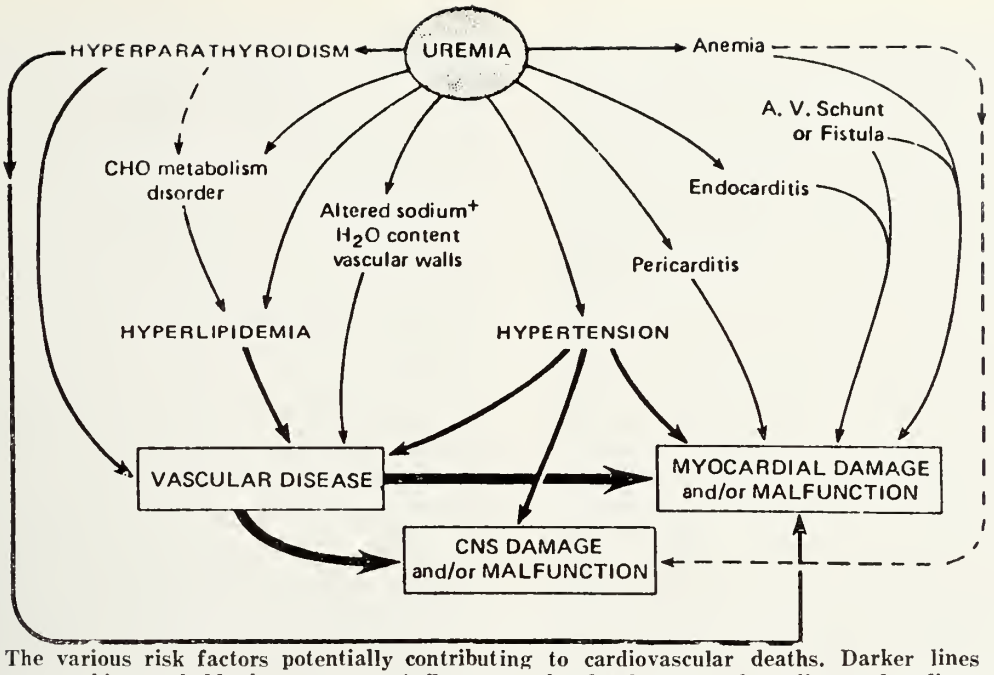

Fig. 1. The various risk factors potentially contributing to cardiovascular deaths. Darker lines indicate those factors which probably have greater influenceon the development of cardiovascular disease.

of other factors, such as arteriosclerosis, over which we apparently have less influence, can be evaluated.

FACTORS IN THE DEVELOPMENT OF CARDIOVASCLUAR DISEASE

Hypertension. The disorders potentially contributing to earlier and more frequent development of cardiovascular disease in patients on hemodialysis are numerous. Figure 1 illustrates these various risk factors and attempts to show how they interrelate. Probably the most important contributing factor, as alluded to earlier, is hypertension. The patient with severe malignant hypertension likely already has cardiac or cerebral disease, or both and is at risk before the onset of either uremia or hemodialysis. Perry et al[4] and Breckenridge et al[5] have demonstrated the importance of treating hypertension, indicating longer survival in those patients with drug-controlled disease. The duration of hypertension and adequacy of control before the onset of uremia obviously become important predisposing conditions. Greater efforts to control blood pressure in the nondialyzed uremic patient may have a beneficial effect on later mortality. Earlier initiation of hemodialysis in the uremic patient with unresponsive hypertension (and only mild azotemia) becomes a consideration. Certainly, appropriate reduction of extracellular volume and complete control of blood pressure should be an integral part of the criteria for adequate hemodialysis. Satisfaction with borderline control of hypertension because the patient is "on hemodialysis and has a poor prognosis" is no longer acceptable. We have pointed out the benefits of earlier bilateral nephrectomy in patients with malignant hypertension who have not responded to drug therapy and aggressive hemodialysis[7]. In the patient on hemodialysis with severe uncontrolled hypertension, bilateral nephrectomy may favorably affect later cardiovascular mortality. The relative weight one places on hypertension in the overall pathophysiology of cardiovascular death is unknown, but we feel it must be a major consideration.

Cardiac output. An increased demand on the cardiovascular system, other than from hypertension, must also be a factor in morbidity and mortality. Chronic high cardiac output adversely affects myocardial function, leading to congestive heart failure. It is not clear whether or not chronic high output, with its demand on the myocardium, affects the development of coronary artery disease. However, increased cardiac output in the presence of coronary artery disease must certainly have a detrimental effect. Uremic patients usually have severe anemia, which increases cardiac

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output. This problem is accentuated in the dialyzed uremic patient by placement of arteriovenous fistulae and shunts. During the dialysis procedure an extracorpeal circulation is created and there is mechanical pumping of blood, both of which effectively increase the size of the shunt. Arteriovenous shunting and hemodialysis also have an effect on cardiac output. Hopefully the uremic patient's excessive extracellular volume will be well managed by adequate dialysis therapy. If not, chronic fluid overload will contribute to myocardial strain and may adversely effect cardiovascular mortality. An abnormal cardiac response to manipulations in blood pressure has been demonstrated in uremic patients[8]. A blunted or lower baroreceptor slope in response to angiotensin or amyl nitrite administration suggests that uremic patients do not respond with the appropriate tachycardia or bradycardia with changes in blood pressure. This altered vascular responsivity may be due to a combination of hypertension, anemia, vascular disease and perhaps autonomic nervous system neuropathy. In the face of previous vascular arteriosclerosis, failure of an appropriate cardiac chronotopic response to change in blood pressure may possibly contribute to myocardial and cerebral ischemia.

Pericardial and endocardial disease. Pericardial tamponade and constrictive pericarditis, as well as infectious endocarditis, are common problems in the dialyzed uremic patient and contribute to the overall cardiovascular mortality. Raab[9], Zelis and Mason[10], and Heistad, Abboud and Ballard[11] have demonstrated a reduction in vascular reactivity and increased arterial wall stiffness with changes in intra- and extracellular electrolyte content — specifically a decrease in sodium ions. Abnormality in the cellular handling of electrolytes in uremic patients suggests the possibility that there may be an abnormal sodium or water content of vessel walls or both, which in turn contributes to hypertension and perhaps directly to ischemia due to such vascular changes.

Abnormal carbohydrate metabolism. Abnormal carbohydrate metabolism has been documented as an early manifestation of the uremic syndrome[12–16]. Research in a number of laboratories has shown the abnormality in carbohydrate metabolism to be related to a decreased tissue sensitivity to insulin at the cellular level, leading to carbohydrate intolerance. In turn, there is a delayed and increased release of immunoreactive insulin in uremic patients. Institution of hemodialysis improves this disorder to some extent with reduction of blood glucose and increase in glucose clearance (Kg), but fasting and peak immunoreactive insulin levels do not revert to normal. In fact, immunoreactive insulin levels have been demonstrated to be increased in the dialyzed patient,[17] possibly accounting for the improved glucose tolerance. Juvenile diabetic patients are known to have advanced and early vascular disease, the cause of which remains unknown. This vascular disease has been suggested to be due to insulin **deficiency** with vascular polysaccharide deposition. The role of biochemical abnormality as opposed to previous microangiopathy in the etiology has been widely debated and has been reviewed by Bradley[18]. Insulin levels in the uremic patient are increased rather than decreased as in the juvenile diabetic patient, and the pathophysiology of vascular disease may be quite dissimilar. Be that as it may, abnormal carbohydrate metabolism persists to a mild extent in the dialyzed uremic patient and may contribute to the vascular problems now being seen.

Hyperlipidemia. Another possible mechanism of action of abnormal carbohydrate metabolism in vascular disease of the uremic patient is its role in the development of abnormal lipid metabolism. Hypercholesterolemia has clearly been shown to be a major risk factor in the development of arteriosclerosis in coronary artery disease[19]. The exact role of elevated triglyceride is unknown; however, there is an increased incidence of cardiovascular disease in patients with Type IV hyperlipoproteinemia[20,21]. Wardle, Menon, and Anderson[22], studying patients with premature arteriosclerosis in chronic renal disease, found impaired fibrinolysis, which they suggested was secondary to increased triglyceride levels. The impaired fibrinolytic activity was felt to be a factor in the development of atherosclerosis. More recently, Carvalho, Colman, and Lees[23] have noted increased platelet adhesiveness in the presence of Type II hyperlipidemia. Regardless of the exact mechanism of action, the presence of lipid abnormalities in

patients on chronic maintenance dialysis likely contributes to an earlier and more frequent development of intimal arteriosclerosis and mortality from cardiovascular disease.

An increase in serum lipids in kidney disease has been observed since 1899, when Herter and Wakeman[24] reported an increased cholesterol in the serum of dogs made uremic by ureteral ligation. Several papers subsequently confirmed the presence of increased lipids in experimental renal disease[25-27] and likewise in patients with naturally occurring renal disease[28-30]. Elevated cholesterol has long been known to be part of the nephrotic syndrome. Berlyne and Mallick[31] suggested there is an increased incidence of ischemic heart disease as a complication of hypercholesterolemia in the nephrotic syndrome. Most studies of hyperlipidemia in uremic patients have been described in the absence of nephrotic syndrome; however, a previous history of nephrotic syndrome, its duration, and relationship to subsequent vascular disease has not been correlated in the nonnephrotic uremic. Previous nephrotic syndrome probably plays a minor role, since hyperlipidemia is seen in patients with renal disease not associated with nephrotic syndrome. In fact, Kokot et al[32] noted abnormal lipid metabolism not only in patients with impaired renal function but also in pyelonephritic patients with normal renal function. They theorize that disease of the renal medulla is connected with the abnormality in lipid metabolism.

Most studies in uremic and dialyzed uremic patients have found primarily an increase in triglycerides with only mild-to-moderate increase in cholesterol. Boyer and Scheig[33] and Gutman et al[34] found decreased postheparin lipolytic activity and increased triglycerides in dialyzed and nondialyzed uremic patients. Losowsky and Kenward[35] and Kleinknecht et al[36] found abnormally high triglyceride levels but normal free fatty acids and cholesterol. Bagdade, Porter and Bierman[37] demonstrated hyperlipidemia in uremic patients and noted that it became more marked during hemodialysis. They found elevated serum triglyceride levels were directly related to immunoreactive insulin levels in the dialyzed group and concluded that hyperlipidemia was due to a combination of increased hepatic synthesis because of higher insulin levels and decreased lipase activity because of insulin resistance. Gutman et al[34] noted that during the dialysis procedure there was an increase in postheparin lipolytic activity with a decrease in triglyceride. Tsaltas and Friedman[48] noted an increase in unsaturated free fatty acids and lipoprotein lipase but found an increase in triglycerides during the dialysis procedure. Despite the apparent improvement in lopolytic activity with dialysis, many investigators have seen the hyperlipidemia become worse with chronic maintenance dialysis and have concluded that this is likely due to increase in dietary intake. Another potential cause of worsening hyperlipidemia following initiation of hemodialysis is the use of increased carbohydrate in dialysis baths. Bailey[39] noted a decrease in triglyceride levels with the use of low carbohydrate baths but found no change in the lipoprotein electrophoretic pattern. Dombreck, Lindholm, and Vieira[40] were unable to demonstrate any consistent improvement in hypertriglyceridemia by alteration in the carbohydrate content of dialysate baths. They did note, however, that the use of oral androgen therapy accentuated hypertriglyceridemia. Both of these studies were with short-term omission of dextrose from the dialysis bath, but suggest that carbohydrate in the dialysate alone does not have a significant effect on elevated lipid levels.

The electrophoretic pattern of the hyperlipidemia in uremia has been demonstrated to be the primary Type IV. Brons, Christensen, and Hørder[41] and Cohen and Lindall[42] found Type IV to be the predominant abnormal pattern in uremic and dialyzed patients. Bailey[39] found approximately 56 per cent of patients on chronic maintenance dialysis to have Type IV hyperlipidemia. A pilot screening of lipid abnormalities in uremic patients, patients on chronic maintenance dialysis, and patients with successful renal transplants at the Peter Bent Brigham Hospital has been summarized[43] and is illustrated in Fig. 2 through 4. The beneficial effect of dialysis and successful transplantation on fasting blood sugar and K rates in uremic patients is demonstrated in Fig. 2. The K rate in dialysis and transplant patients is significantly improved over that in uremic patients ($P<.02$). These changes were felt to be secondary to an increase in

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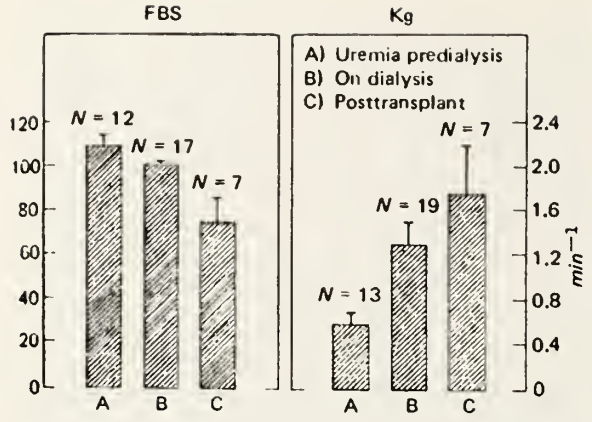

Fig. 2. Mean fasting blood sugars in uremic patients, dialysis patients and transplant patients (left) and K rates (glucose clearance) (right). The mean fasting blood sugars in the three groups are significantly different (P<05). The K rates in the dialysis and transplant patients are significantly different from those of uremic patients; however, the K rates in dialysis and transplant patients do not differ significantly.

the peak immunoreactive insulin levels in the dialyzed and transplanted patients (P<.05) (Fig. 3). Lipid studies in these patients are summarized in Fig. 4. The nondialyzed uremic patient had a mean triglyceride level of 194 mg/100 ml and cholesterol of 178 mg/100 ml, and 50 per cent of the population had Type IV lipid electrophoretic patterns. The mean triglyceride and cholesterol rose in patients on chronic dialysis to 358 mg/100 ml and 309 mg/100 ml respectively, and the incidence of Type IV hyperlipidemia climbed to 74 per cent. In the small group of successfully transplanted patients the triglyceride and cholesterol levels fell to normal (175 mg/100 ml and 227 mg/100 ml respectively). The incidence of Type IV hyperlipidemia was found to be only 14 per cent in this small population. We were unable to correct the serum triglyceride level, serum cholesterol level, or lipoprotein pattern with either K rate, or fasting or peak immunoreactive insulin levels in any of the groups. Despite the marked increase in immunoreactive insulin in the group of transplant patients, their triglyceride and cholesterol values were lower than in the dialysis population, making it difficult to incriminate the elevated insulin levels as a cause of lipid abnormality.

Because of the small number of patients in this pilot study, screening of dialysis and transplant patients was repeated in a larger population (Fig. 5). The mean triglyceride level in the dialysis population was 209.5 mg/100 ml, and in the transplanted group was 182.7 mg/100 ml (NS). The mean cholesterol level was 213.1 mg/100ml in the dialysis group, while in the transplant group it was 260.7 mg/100 ml (P<.05). There was no difference in the weight of these two populations; however, the dialysis group had a mean aver- 10 years greater than the transplant population. Table 2 indicates the incidence of lipid electrophoretic abnormalities in this repeat screening. In the hemodialysis patients, 8.6 per cent had Type IIB and 40 per cent had Type IV hyperlipoproteinemia while in the transplant population 17.7 per cent had Type IIA, 14.5 per cent had Type IIB and 16.1 per cent had Type IV lipid electrophoretic patterns. The difference in distribution in the dialysis and transplant group was significant (Chi Square=12; P<.01). That is, we found an increase in triglyceride and Type IV hyperlipidemia in the dialysis population, but a higher mean cholesterol and higher incidence of Type IIA and IIB hyperlipoprotein in the transplant group. We previously reported the most frequent cause of death in the transplant population to be infections, felt to be secondary to immunosuppressive drug therapy. The second most frequent cause of death, however, was cardiovascular disease, which accounted for 18 per cent of transplant deaths[44]. In a study of transplanted patients in Seattle, Washington, Casaretto, Marchioro and Bagdade[45] also

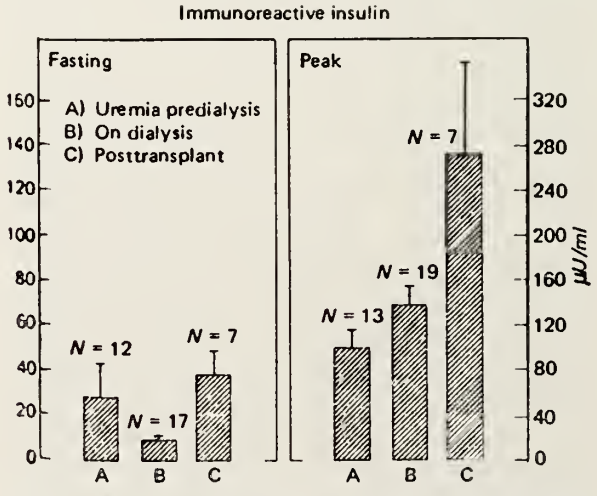

Fig. 3. Mean fasting and peak immunoreactive insulins in uremic patients, chronic dialyzed patients and transplant patients. Mean testing IRI's are significantly different in dialysis and transplant patients. Mean peak immunoreactive insulins are significantly higher in the transplant population than in the uremic patients or dialyzed patients.

Table 2. The distribution of lipoprotein electrophoretic patterns in 38 dialysis patients and 62 transplant patients

Lipoprotein type	Hemodialysis patients	Transplant patients
Type IIA	0	11 (17.7%)
Type IIB	3 (8.6%)	9 (14.5%)
Type IV	14 (40.0%)	10 (16.1%)
Normal	18 (51.4%)	32 (51.9%)
Total	35	62

Chi Square = 12.00; $P<0.01$.

found an increase in immunoreactive insulin, which was higher in the transplant group than in a uremic population or a group of chronic dialysis patients. They also found mean serum triglyceride levels and mean serum cholesterol values significantly greater than in control patients. It was suggested that the increase in hypertriglyceridemia and cholesterol was secondary to corticosteroids treatment, which induced a state of tissue insulin resistance, and that cardiovascular risk continued in the patient population despite the presence of successful renal transplantation. On the basis of cholesterol values and electrophoretic patterns, it would appear that the problems in the dialysis patient and the transplant patient have a different pathophysiology. Further study is underway to determine the type of lipoprotein abnormality and the relationship of posttransplant hyperlipidemia to the use of corticosteroids and the incidence of cardiovascular disease in transplant patients.

Another contributing factor to the development of vascular disease in the uremic patient is secondary hyperparathyroidism. There are numerous case reports of calcification of vascular media and myocardium leading to tissue damage and mortality. Mallick and Berlyne[46] demonstrated arterial calcifications after vitamin D therapy in uremic patients and pointed out the hazards of such therapy in this population. Davidson and Pendras[47] discussed two cases in which hypercalcemia contributed to the demise of a dialysis patient through vascular complications. Katz, Hampers, and Merrill[48], reviewing secondary hyperparathyroidism in a large dialysis population, found x-ray evidence of vascular calcification in 67 of 195 patients. Vascular calcification was present in patients both with and without bone disease and correlation with a high calcium-phosphorus product. Consequences of vascular calcification have been demonstrated in peripheral tissue[49], and Lewin and Trautman[50] reported ischemic myocardial damage secondary to coronary artery vascular calcification. In a post mortem study in 1949 of 14 patients with myocardial calcification, Gore and Arons[51] found 13 of the patients to be uremic. Terman et al[52] described post mortem examinations on six patients who had been on chronic maintenance dialysis in whom death resulted from arrhythmias and congestive heart failure due to calcification of the myocardium and conduction system. The vascular hazards of advanced secondary hyperparathyroidism clearly play a prominent role in increased death date. Vascular calcification does not reverse with either hemodialysis or parathyroidectomy, and one must therefore con-

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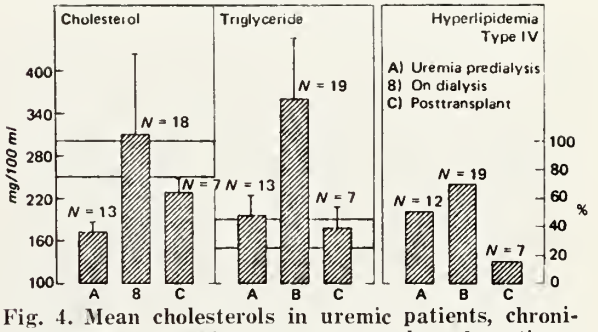

Fig. 4. Mean cholesterols in uremic patients, chronically dialyzed patients and transplanted patients (left): mean triglycerides of the same three groups (middle); and the incidence of Type IV hyperlipidemia in these three groups (right). The mean values for cholesterol and triglyceride are not significantly different in the three groups. The incidence of type IV hyperlipidemia in the dialysis and transplant population is significantly different ($P<.01$).

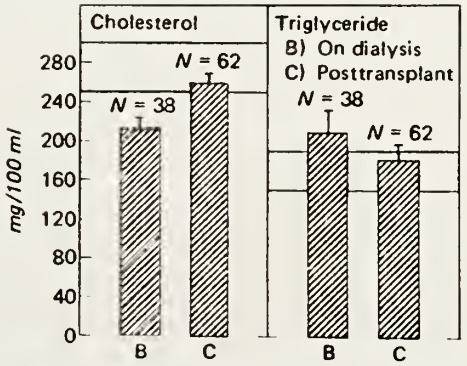

Fig. 5. Mean values of cholesterol and triglyceride in 38 dialysis patients and 62 transplant patients. The mean cholesterol value is significantly different between the two groups; however, the triglyceride value is not significantly different.

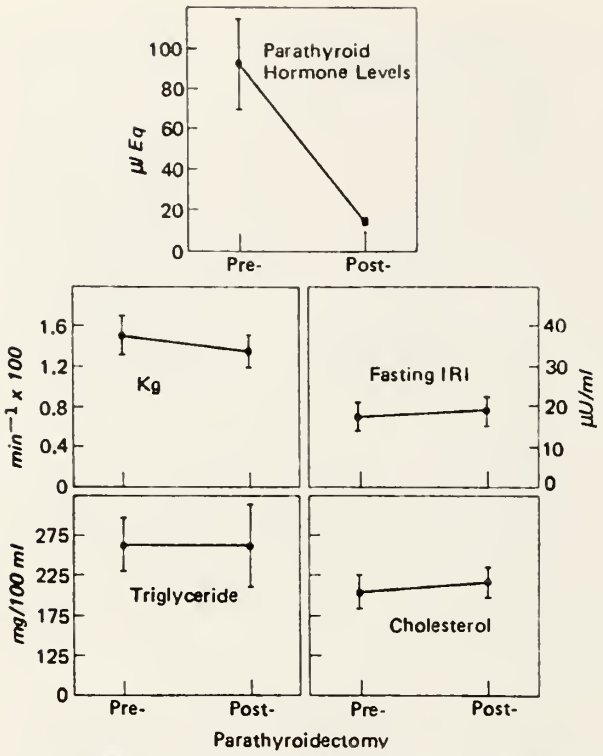

Fig. 6. Mean values for parathyroid hormone level, K rate, fasting immunoreactive insulin and triglyceride and cholesterol are shown in seven chronic dialysis patients before and after parathyroidectomy. The change in mean parathyroid levels is significant ($P<.001$), whereas changes in K rate, fasting IRI, triglyceride and cholesterol are not significant.

sider earlier measures to prevent hyperparathyroidism in the uremic patient or the earlier use of parathyroidectomy to prevent permanent vascular calcification.

Hyperparathyroidism potentially has one other mechanism of action in the development of vascular disease. Kim et al[53] found that chronic hypercalcemia in nonuremic patients with primary hyperparathyroidism sustained a form of insulin-resistance which necessitated increased insulin secretion to maintain plasma glucose homeostasis. Subsequently Lindall et al[54] found significant reduction in insulin hypersection following parathyroidectomy in dialyzed patients. This finding suggested that hyperparathyroidism affected the abnormal carbohydrate metabolism. In 1965 Cantin[55] found improvement in high lipid levels in rats with renal failure by thyroparathyroidectomy and suggested a relationship between secondary hyperparathyroidism and hyperlipidemia. To evaluate the role of hyperparathyroidism in abnormal carbohydrate metabolism and possibly in the development of hyperlipidemia, we studied seven patients with hyperparathyroidism. Patients were studied before and after parathyroidectomy with calcium infusions and against low calcium baths in an effort to distinguish the effects of calcium from parathormone on carbohydrate and lipid metabolism[56]. Five of the seven dialysis patients had hyperlipidemia of the type IV pattern prior to parathyroidectomy. Before parathyeoidectomy calcium infusions led to significant reductions in the serum parathyroid hormone levels (123 μl Eq ± 28 to 35 ± 4; $P<.05$). Following parathyroidectomy, calcium infusion had no effect on parathyroid hormone levels. Both before and after parathyroidectomy the lowering of serum calcium induced by low calcium dialysate bath had no significant effect on parathyroid levels. All patients had significant decrease in parathyroid hormone levels with parathyroidectomy, from a mean of 92.3 ± 24.7 to 14.0 ± 1.3 μl Eq (Fig 6). In all cases, before and after parathyroidectomy, with elevated and low calcium levels, there was no significant change in carbohydrate metabolism as measured by K rate with intravenous glucose tolerance tests (3.47 ± .62 to 3.15 ± 0.5 min^{-1}) or in fasting (17.5 ± 3.5 to 18.6 ± 3.7 μU/ml) and peak insulin levels. Likewise, there was no significant change in the level of triglyceride (262 ± 32 to 262 ± 52 mg/100 ml) and cholesterol (205 ± 22 to 216 ± 19 mg/100 ml) and no change in the incidence of Type IV hyperlipidemia. We conclude from ths study that hyperparathyroidism seems to have a minor role in abnormal carbohydrate metabolism and minimal, if any, effect on hyperlipidemia. Hyperparathyroidism, nonetheless, remains a significant contributor to cardiovascular disease by its role in myocardial and vascular calcification.

SUMMARY

In conclusion, patients on chronic maintenance dialysis have an increased incidence of death from cardiovascular disease. Hypertension plays a major role, and these patients must be carefully monitored for complete control of blood pressure. Adequacy of ultrafiltration to maintain normal extracellular volume is an essential part of the dialytic treatment. Hypertensive patients should be screened for excessive renin secretion because of its possible role in unresponsive hypertension in pa-

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George Whipple Porter, M.D. 1847-1910

Pioneer Rhode Island Gynecologist Brought Newer Advances To The State

By Seebert J. Goldowsky, M.D.

Doctor George Whipple Porter, father and grandfather of surgeons, was a pioneer gynecologist in Rhode Island. My interest in him was stimulated by a letter, which he wrote as a young man, made available to us by Doctor Arnold Porter, his grandson. The son of Emery M. and Betsy Whipple Porter, George Porter was born in Smithfield (now Lincoln), Rhode Island on April 10, 1847. He was graduated from Brown University with an A.B. degree in 1870 and an M.A. in 1871. He was elected to Phi Beta Kappa. Following graduation he enrolled at the Harvard Medical School, which at that time was located on North Grove Street in Boston, near the Massachusetts General Hospital. The Medical School and the hospital had no official connection, but the close proximity enabled students to make ward visits and to attend operations in the old MGH amphitheater, which was already gaining fame as the "Ether Dome," where ether had first been administered in 1846.

SEEBERT J. GOLDOWSKY, M.D., *Editor-in-Chief, Rhode Island Medical Journal; Medical Director, Rhode Island Blue Cross-Blue Shield.*

MEDICAL SCHOOL

On the faculty were Oliver Wendell Holmes, Parkman Professor of Anatomy and Physiology; Henry I. Bowditch, professor of medicine; Henry J. Bigelow, professor of surgery; Edward H. Clarke, professor of materia medica; and David Humphreys Storer, professor of obstetrics. All were excellent teachers as well as busy practitioners. The old-time non-graded curriculum still prevailed with go-as-you-please lectures, no systematic course of study, and unstandardized degree requirements. In the North Grove Street building there were three lecture rooms and a museum, and a semi-detached dissecting room and chemical laboratory. The microscope had just been introduced to students.

Instruction consisted mainly of a winter course of lectures lasting from 8 o'clock in the morning until 2 in the afternoon and terminating in March. A spring series was also offered, but was less well attended. The degree requirement had long been attendance at two courses of lectures in different years, followed by an oral examination.

Doctor Charles W. Eliot had become presi-

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dent of Harvard in 1869. He reformed the curriculum by introducing a three-year graded course. The changes had begun to take effect about 1871. While George Porter was a medical student during exciting times, it is likely that the instruction to which he was exposed was based largely on the older traditions. Clinical teaching was limited, but students had the opportunity of attending crowded rounds at the MGH. A few of the more privileged students became "house pupils" at the hospital for one year, a position open only to undergraduates. These appointments usually began in May.

HOUSE PUPIL

Some time during the late spring of 1873 George Porter, while still a student at the Harvard Medical School, received an appointment as medical intern or extern at the Boston City Hospital, which had been in operation since 1864. The position appears to have been analogous to that of house pupil, and blended some of the features of the modern clinical clerkship and the first-year internship. During the early months of his service he wrote this revealing description of his activities:

City Hospital, Boston
June 12th, '73

My dear aunt:

I have been having a jolly time to-day riding about admitting patients. I had a good horse and the hostler to drive. I put on my dignity and refused them in grand style. Doctor Cowles* is away and we on the medical side have been taking turns admitting but while the other fellows were playing superintendent I had to make the visits with the doctors in the wards.

Every week the fellows on the surgical side are summoned to court as witnesses in some case of assault and battery or some similar case when the injured man has been brought to the hospital. Then there is a lively demand for my services to run the surgical out-patients department. So I am getting some experience in dressing wounds, putting on bandages etc. which I like very much. Do not think I am working too hard, for with my regular duties I do not have very much to do. I shall try to get someone to do my work for a day or two at commencement time, week after next, so I can come home and eat some strawberries. We have had them twice here. We live pretty well — have meat three times a day. My appetite is splendid. I wish I could get home some of these fine days. Everything must be looking very fine there now. How long before the strawberries will be ripe?

I am getting a pretty bad reputation for killing patients here. One of the fellows went off Saturday night to see his girl, and stayed Sunday with her, leaving his patients in my care. While he was gone three of them died, which of course he lays to me but I don't believe it, for I dosed them as hard as I could, almost exhausting the apothecary's shop.

We had a very fine operation of extraction of cataracts from both eyes here this afternoon by Dr. Williams.** It is a private patient, and Dr. W. will probably get five or six hundred dollars for the operation which took only a few minutes. You see what I am coming to. I enjoy it here more every week that I stay. I would not miss this year in the hospital for anything. Give my love to all.

Your affectionate nephew,
George Whipple Porter
Admitting Physician B.C.H.
pro tem, &c., &c., &c.

Some of the fellows here are going up for examinations at the school next week. I am thankful I am done with them. It is no fun cramming here.

HOUSE SURGEON

He received his M.D. degree from the Harvard Medical School in 1874. Beginning that same year he served as House Surgeon for two years at the famed Woman's Hospital in the State of New York, founded and presided over by the great pioneer gynecologist, James Marion Sims, who was then in his prime. Sims had devised the Sims position for vaginal examination and surgery and the Sims vaginal speculum. He also introduced the silver wire suture, which made possible

*Edward Cowles, M.D.

**Henry W. Williams, M.D. He began the instruction in diseases of the eye in the 1860s and later was appointed professor of ophthalmology.

the cure of a previously incurable scourge of childbirth — vesicovaginal fistula. Porter finished his two-year houseship in 1876 and then settled in Providence to practice obstetrics and gynecology, the first formally trained female specialist in the state. On December 6, 1876 he was elected an "additional" Surgeon to Out-Patients by the Board of Trustees of the still new Rhode Island Hospital (opened in 1868).

During the same year he joined the Providence Medical Association and became a fellow of the Rhode Island Medical Society. He volunteered as Surgeon to the First Light Infantry, Rhode Island National Guard, in 1877, a female specialist serving in the all-male military, an anomaly not unknown to gynecologists of later generations.

STATE OF THE ART

At this time the specialty of gynecology had begun to burgeon, largely through the efforts of a group of talented Americans. Ephraim McDowell of Danville, Kentucky, had performed the first successful ovariotomy (as oopherectomy for cyst was then called) on December 13, 1809 without benefit of anaesthesia or antisepsis. The tumor weighed 22½ pounds, and the operation took 25 minutes. The patient, then 45 years of age, lived another 33 years. McDowell himself subsequently performed the operation eight times. Abdominal surgery during the first three quarters of the Nineteenth Century was virtually confined to ovariotomy.

Spencer Wells, the distinguished English ovariotomist, visited Boston and New York in 1867 and created a great stir. By that time he had performed 312 ovariotomies with a mortality of 16 per cent. At least nine ovariotomies had been performed during the first 50 years of the Massachusetts General Hospital, and all of the patients except one had died. The exception was one operated upon in 1869 by Doctor Samuel Cabot, who had covered the incision with cotton soaked in "carbolic oil." While ether anaesthesia had been around for 30 years, antisepsis had been introduced by Joseph Lister but recently (1865), and he had not published his work until 1867. The carbolic spray, not originally a part of the procedure, was introduced in 1870. John Homans of the MGH had performed five ovariotomies between 1872 and 1877, and all five had died. His sixth case (in 1877) in which he used the carbolic spray, survived and recovered. During 1878 he performed six more with antiseptic precautions, with only one death. Because of the poor earlier results most of the operations had been performed in an extemporized ward near, but outside of the main hospital, because it was felt that this type of surgery was not consistent with the welfare of the patients in the surgical wards. This attitude portended a similar position taken by the trustees of Rhode Island Hospital.

FIRST CASES

Sims had been a pioneer in ovariotomy and had a vast experience. Young Porter brought to Rhode Island many of the concepts he had been taught by the master. Ovariotomy came to Rhode Island with his arrival.

The first case, a 59 year old housewife, was admitted to the surgical service of Doctor Charles O'Leary at Rhode Island Hospital in the summer of 1877, complaining of a markedly swollen abdomen. A diagnosis of ovarian cyst was entertained. Tapping of ovarian cysts was resorted to when the swelling became intolerable, sometimes followed by the injection of iodine, with an occasional "cure." This patient had been tapped on July 1, 1877 with the removal of two pails of liquid, which flowed poorly because of its gelatinous consistency. A second trial of tapping on August 4 was unsuccessful because of plugging of the trochar. Consequently the patient was explored under ether anaesthesia on August 11 at 11 a.m. A large cyst was found with its pedicle attached on the left side. The pedicle was ligated with silk and the stump carbolized. The wound was sponged with carbolized water and the abdominal wall was closed with through-and-through silver wire sutures, with silk sutures placed between them in the skin. The large tumor was multiloculated and cystic, with one portion containing hair. The patient died at 4 p.m. on the day of surgery. The wound was found to contain two quarts of putrid fibrinous liquid with a rotten egg odor. The operative report was not signed, nor was the operating surgeon named.

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Another patient in the hospital at the same time was operated upon some weeks later. A 32 year old single girl, a servant from Nova Scotia, had been admitted to the medical ward because of a swollen abdomen. She was transferred to the surgical service of Doctor Robert Millar on June 10, 1877 with a diagnosis of ovarian tumor. She had received several "electrolysis" treatments (application of galvanic current) without benefit. On July 6 she was given a slug of brandy, and a trochar was inserted in the midline of the lower abdomen half-way between the umbilicus and the pubis. A half water-pail full of dark tenacious liquid was drawn off, but the tumor could not be fully drained because of multilocular cysts. Following the procedure the abdomen presented an irregular appearance. On July 11 the patient was told that "there was no use in anything except an operation for removal" and she was given "time to decide." The decision-making process seems to have been quite deliberate, as she was not operated on until September 1, 1877.

On the evening of August 30 she was given two Seidlitz powders, and on the evening before surgery a dose of tincture opium. The operation was performed at 12 noon. Before induction of the ether the patient was given 1½ ounces of brandy and 40 drops of tincture of opium. The incision was made in the midline from umbilicus to pubis. A trochar was inserted into the cyst, and a pailful of brownish viscid fluid escaped. Behind the cyst was a large soft mass too solid to flow through the tube. The mass seemed to grow directly from the cyst. There was no distinct pedicle separating the mass from the right ovary. In lieu of a pedicle there was a small cyst. This was tied with a ligature as close as possible to its origin, and the entire mass was cut away. A rubber tube was placed in the cul-de-sac and brought out through the lower end of the wound. Two small bleeding veins were ligated with carbolized catgut. The abdomen was then thoroughly sponged with carbolized water. The wound was closed with three silver wire sutures, and the skin margins were brought together with interrupted silk. The time of the operation was one hour and 20 minutes. In the evening the patient's mind was clear, and she took nourishment without vomiting. Pulse was 140, and temperature 102.8°. Postoperatively she was given two subcutaneous injections of brandy. The weight of the tumor without its fluid content was 12 to 15 pounds.

On September 2 the patient was comfortable, and her mind was clear. The following morning, however, she was weak, and her pulse difficult to count. She expired on September 4 at 6 a.m. While this operation again was not signed, it appears to have been in the handwriting of George Porter, and the description was in greater detail than that of the preceding case. There is a strong presumption that Porter was responsible for both. It is a matter of record that he was at this time being called in consultation on gynecological cases. These two cases constituted the only ovariotomies performed during the hospital year of October 1877 to October 1878. One other case of ovarian cyst was admitted, but was not subjected to surgery. While another nonoperative case was admitted the following year, no further cases of ovarian cyst were listed during the ensuing four years.

NEW SERVICE

According to Joseph Karland, formal antisepsis was introduced to the Rhode Island Hospital in the 1880s over the vigorous protests of the older surgeons, especially those who had served in the Civil War. It is evident, however, that the use of carbolic acid, as proposed by Lister in his first phase of antisepsis, was in use in the cases reported here. The complex and time-consuming ritual using the carbolic spray came later.

During 1878 the first clinical charts appeared, recording daily temperatures and pulse.

The trustees of Rhode Island Hospital had created a department for the diseases of women and children in 1877. Treatment on this service was essentially medical. In June of 1882 the trustees split the department and established a Department of Gynecology. In the annual report of November 8, 1882, President George I. Chace described the action in this way: "During the year now closing a department has been opened in the Hospital for the special treatment of diseases peculiar to women. The need of a service of

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Editorials

LESTER R. DRAGSTEDT, M.D. 1893-1975

Belatedly we wish to take cognizance of the passing of one of the giants of American medicine, Lester R. Dragstedt, who departed from these earthly realms on July 16, 1975, a victim of that typically American scourge, myocardial infarction.

A graduate of Rush Medical College, he spent most of his adult years practicing surgery, teaching, and conducting research at Northwestern University Medical School. His greatest contributions and his most significant life work were in the field of gastric physiology. He was one of a long line of American surgeons who have contributed massively to a better understanding of human physiology, extending from William Beaumont, the first gastric physiologist, to such current luminaries as Francis Moore and Tom Shires, not excluding our own Henry T. (Tom) Randall and Fiorindo A. (Simmie) Simeone.

Papers in Dragstedt's name began appearing in the literature in the mid 1920s evincing a predilection for pancreatic physiology. In the 1940s the emphasis shifted to gastric physiology and the causation and therapy of peptic ulcer. Early in the war years, he began to crystallize the concept of vagotomy for treatment, later combined with a drainage procedure. He further unraveled the enigma of concomitant duodenal and gastric ulcer.

Following his retirement from the faculty of Northwestern about 15 years ago, he transferred his activities to the University of Florida College of Medicine at Gainesville. Since then there has been an uninterrupted flow of papers on gastric physiology, fine-tuning his earlier concepts of the nature of peptic ulcer. Reports have continued to appear since his death, the latest as recently as December 1975.

Doctor Dragstedt was a friendly and charming person. His simple mien belied a sophisticated inquiring mind. His passing is a loss to American surgery, to physiology, and to humankind. His many friends and colleagues will miss him.

LOW DOSE HEPARIN

As Kakkar of King's College Hospital in London has pointed out, several controlled clinical trials have clearly demonstrated that low doses of heparin administered subcutaneously are effective in reducing the incidence of deep venous thrombosis as detected by the ^{125}I-fibrinogen test. He suggests that, before prophylaxis by this means can be recommended, two questions must be answered: 1. Does low dose heparin prevent fatal postoperative pulmonary embolism? and 2. Does a standard regimen of heparin significantly increase the risk of operative and postoperative bleeding? Routine prophylactic oral anticoagulants have proved unacceptable in the USA and the United Kingdom because of the risk of serious hemorrhage. In order to answer the questions an international multicenter trial was set up by Kakkar and associates, comprising surgeons in 28 centers in the British Commonwealths and in Europe. The trial was coordinated at King's College Hospital and the data analyzed by computer at the University of London.

Patients over age 40 undergoing a variety of elective major surgical procedures were included in the trial. A major operation for the purpose of this study was defined as one performed under general anaethesia, lasting longer than 30 minutes, and requiring a postoperative stay of seven or more days. Patients having emergency surgery and those receiving anticoagulant therapy were excluded. The

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trial protocol was designed on the premise that, based on previous reports, five of every 1000 adults subjected to major surgery will die of massive pulmonary embolism.

The trial embraced 4121 patients undergoing a variety of procedures ranging from hernia to esophagectomy and total hip replacement. The patients received calcium heparin (sodium heparin only is available in the USA) 5000 units in 0.2 ml of fluid subcutaneously two hours preoperatively and every eight hours thereafter for seven days. If the patient was still confined to bed at that point, the same dosage was continued until he became ambulant.

The patients were divided into a control group of 2076 and a heparin group of 2045. The groups were matched for age, sex, weight, blood group, and factors which would predispose to the development of thromboembolism. The results were striking. One hundred eighty patients died in the postoperative period, 100 in the control group and 80 in the heparin group. Comparable numbers of the two groups were autopsied. Sixteen patients in the control group and two in the heparin group were found to have died of massive pulmonary embolism. Additionally, emboli of lesser extent were found in six patients in the controls and three in the heparin group. Taking all pulmonary emboli together, these findings were judged to be highly significant ($p<0.005$).

Of the total study group there were 1292 patients in whom the ^{125}I-fibrinogen test for deep venous thrombosis was carried out — 667 controls and 625 in the heparin group. Deep vein thrombosis occurred in 24.6 per cent of the controls and 7.7 per cent of the heparin group (again $p<0.005$). At necropsy 30 patients exhibited deep venous thrombosis — 24 controls and six in the heparin group. Thirty-two patients in the control group and 11 heparinized patients developed deep vein thrombosis diagnosed clinically and confirmed by venography. Twenty-four patients in the control group and eight in the heparin group were treated for clinically suspected pulmonary embolism. All of these statistics are significant at the $p<0.005$ level.

There were no statistically significant differences in fatal hemorrhage (at autopsy), blood transfusion requirements, or postoperative fall in the hemoglobin level. While there appeared to be a statistically significant difference ($p<0.01$) in the incidence of wound hematoma (117 among the controls and 158 in the heparin group), the actual difference in incidence, however, was of the order of 3 per cent.

Low dose heparin prophylaxis has not yet been adopted on a large scale, although there are blood coagulation studies, largely carried out in the USA, which appear to lend theoretical validity to the regime. There are two chief reasons for this hesitancy: 1. Doubt about the effectiveness of the regime in preventing fatal pulmonary embolism, and 2. fear of serious bleeding.

This large study gives credence to the conclusion that this method of low dose heparin administration fulfills most of the criteria of an ideal prophylactic regime. Kakkar concludes:

"It prevents postoperative fatal pulmonary embolism; it is well tolerated by the patient; it requires no laboratory control to regulate dosage; and it does not produce serious bleeding when the patient undergoes major surgery. This form of prophylaxis against venous thromboembolism can now be recommended for use on a large scale in 'high risk' patients undergoing major surgery."

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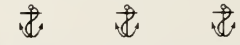


MEMOS FROM THE WOMAN'S AUXILIARY TO THE PROVIDENCE MEDICAL ASSOCIATION

ANNUAL MEDICAL SCHOLARSHIP APLICATIONS AVAILABLE NOW: The Woman's Auxiliary to the Providence Medical Association will present a modest scholarship to a medical student who meets the following requirements: 1. A Rhode Island resident; 2. in good academic standing; 3. in financial need; and 4. enrolled in an accredited AMA Medical School. Applications are available c/o Mrs. Daniel Calenda, Scholarship Chairman, 106 Francis Street, Providence, RI 02903. Deadline for applications is April 1, 1976.

Editor's Mailbox

ORGAN RECITAL

To the Editor:

The inadvertent expression of subconscious thoughts or associations are commonplace. For example, one might exclaim, "Holy smoke!" when suddenly noting a church on fire. In a closely related way, physicians interested in psychosomatic medicine are quite familiar with "organ language" by which functional changes or emotional origins are couched in phrases of common usage, such as "I can't stand it" to describe foot pain, or "I can't bear it" when relating to low back pain. In a like manner the physician may llustrate the role played by the autonomic nervous system to a patient complaining of nausea and vomiting by saying that the body "can't stomach" a particular anxiety producing set of circumstances.

At a medical grand rounds presentation recently the guest lecturer referred to a colleague quite descriptively: "Surgeons like things clear cut," he said, seemingly unaware of the pertinency of his remark. With tongue-in-cheek, as the oral surgeon might view it, and without using obvious organ language equivalents, here is a list of some medical specialists as they might be characterized in an off-hand manner:

CARDIOLOGISTS go with an off-beat crowd.

ORTHOPEDISTS always get the bad breaks.

UROLOGISTS leave no stone unturned to get into the stream of things.

HEMATOLOGISTS will give you the needle every time.

ANESTHESIOLOGISTS live in a dream world.

PROCTOLOGISTS always get to the bottom of things.

RADIOLOGISTS ask penetrating questions.

ALLERGISTS are nothing to sneeze at.

PATHOLOGISTS are cut-ups.

OPHTHALMOLOGISTS carry out their work to the letter.

DERMATOLOGISTS never have to scratch for a living.

GYNECOLOGISTS have to have their hands in it to keep abreast of developments.

ENDOCRINOLOGISTS are secretive.

MICROBIOLOGISTS are an outgrowth of a different culture.

NEUROLOGISTS are always on pins and needles.

OBSTETRICIANS have a swell job with patients of good breeding.

PLASTIC SURGEONS are two faced.

PEDIATRICIANS have no misconceptions about their work.

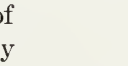
GASTROENTEROLOGISTS tend to bring up rehashed material.

PSYCHIATRISTS have a hard nut to crack.

PHARMACOLOGISTS suspect everyone of being a reactionary.

OTOLARYNGOLOGISTS are first to get ahead, then make light of it.

Sidney I. Brody, M.D.



CLINICAL ASSESSMENT OF T AND B LYMPHOCYTE FUNCTIONS

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CARDIOVASCULAR DISEASE IN UREMIC PATIENTS ON HEMODIALYSIS

(Continued from page 64)

tients on dialysis. Nephrectomy should be used when necessary, where dialysis and antihypertensive medication have not adequately controlled blood pressure. Patients must be monitored for the presence of pericardial disease to avoid subsequent pericardial effusion and the development of constrictive pericarditis with its adverse effect on myocardial function. When constrictive pericarditis is present, it obviously should be relieved by appropriate surgery. Efforts should be made to minimize cardiac output in hemodialysis patients. Whether or not routine transfusions to maintain a higher hematocrit are indicated is a question that cannot yet be answered. However, patients with marginal cardiovascular function who are accepted on hemodialysis and must have an arteriovenous shunt should be supported in any manner to minimize an increase in cardiac output. Early and aggressive treatment of known episodes of sepsis is important in the elimination of valvular endocarditis in this patient population.

Perhaps one of the finer indicators of adequacy of hemodialysis will be G rate and peak immunoreactive insulin levels. Continued abnormality of these parameters may contribute to cardiovascular disease. Clearly, further study of the effect of abnormal carbohydrate metabolism on lipid metabolism is in order. Serum triglyceride, serum cholesterol, and lipid electrophoretic pattern should be followed to evaluate the beneficial effects of drug therapy and changes in dialytic technique on the development of cardiovascular disease. Careful monitoring of calcium, phosphorus, bone films, and parathyroid hormone levels is indicated to assess parathyroid status. The use of aluminum binders and parathyroidectomy to prevent vascular and myocardial calcification is important in the therapy of these patients. The use of cardiac catheterization, coronary artery arteriography, and possibly cardiac vascular repair should be considered in the chronic hemodialysis patient with coronary artery disease if he is otherwise well. Adequacy of hemodialysis perhaps can be evaluated through its effect on all of the above parameters. Whether or not changes in artificial kidney treatments can correct the final vascular disease remains to be seen.

ACKNOWLEDGMENTS

The authors thank Doctors William Amend, Stephen Steinberg, and Altair Mocelin for their participation in the parathyroid, carbohydrate and lipid studies. We acknowledge the kind assistance of Doctors Stuart Soeldner, John Potts, and William Weglicki, in whose laboratories the immunoreactive insulin, parathyroid hormone and lipid electrophoretic examinations were performed.

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Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

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CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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Contraindications: Children 14 years of age and under; pregnant women and nursing mothers; active gastrointestinal lesions or history of recurrent gastrointestinal lesions; allergy to aspirin or indomethacin.

Warnings: *Gastrointestinal Effects:* Because of the occurrence and, at times, severity of gastrointestinal reactions, be continuously alert for any sign or symptom signaling a possible gastrointestinal reaction. The risks of continuing therapy with INDOCIN in the face of such symptoms must be weighed against the possible benefits to the individual patient. Gastrointestinal effects may be reduced by giving the drug immediately after meals, with food, or with antacids. Use greater care in aging patients.

Ocular Effects: Corneal deposits and retinal disturbances, including those of the macula, have been observed in some patients on prolonged therapy. Discontinue therapy if such changes are observed. Ophthalmologic examination at periodic intervals is desirable in patients on prolonged therapy.

Central Nervous System Effects: INDOCIN may aggravate psychiatric disturbances, epilepsy, and parkinsonism, and should be used with considerable caution in patients with these conditions. If severe CNS adverse reactions develop, discontinue the drug.

Precautions: Blurred vision may be a significant symptom that warrants a thorough ophthalmologic examination. Patients should be cautioned about engaging in activities requiring mental alertness and motor coordination, as driving a car. Headache which persists despite dosage reduction requires complete cessation of the drug. May mask the usual signs and symptoms of infection; therefore, the physician must be continually on the alert for this and should use the drug with extra care in the presence of existing controlled infection. After the acute phase of the disease is under control, an attempt to reduce the daily dose should be made repeatedly until the patient is off entirely.

Adverse Reactions: *Gastrointestinal Reactions:* Single or multiple ulcerations of the esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage, with fatalities in some instances; rarely, intestinal ulceration has been associated with stenosis and obstruction; gastrointestinal bleeding without obvious ulcer formation; perforation of preexisting sigmoid lesions (diverticulum, carcinoma, etc.); rarely, increased abdominal pain in ulcerative colitis patients or development of ulcerative colitis and regional ileitis; gastritis, which may persist after the cessation of the drug; nausea, vomiting, anorexia, epigastric distress, abdominal pain, and diarrhea.

Eye Reactions: Corneal deposits and retinal disturbances, including those of the macula, have been observed on prolonged therapy; blurring of vision.

Hepatic Reactions: Rarely, toxic hepatitis and jaundice, including some fatal cases.

Hematologic Reactions: Aplastic anemia, hemolytic anemia, bone marrow depression, agranulocytosis, leukopenia, and thrombocytopenic purpura. Since some patients manifest anemia secondary to obvious or occult gastrointestinal bleeding, appropriate blood determinations are recommended.

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Cardiovascular-Renal Reactions: Edema, elevation of blood pressure, hematuria.

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CARDIOVASCULAR DISEASE IN UREMIC PATIENTS ON HEMODIALYSIS

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GEORGE WHIPPLE PORTER, M.D. 1847-1910

(Continued from Page 68)

this kind has been some time apparent. The department is in the charge of Dr. George W. Porter, in whose skill and special qualifications for its duties the Board have great confidence." The report added: "A room has been prepared on first floor for the Department of Gynecology." The following year, it was noted that "The women's ward has been thoroughly renovated."

Porter was anxious to perform abdominal surgery on women, specifically the operation of ovariotomy. A crisis soon developed, however, and Chace asked the trustees to consider banning all abdominal operations at the hospital, because every one so far had resulted in death. He noted, incidentally, that at the Massachusetts General Hospital and elsewhere results had been better because of the provision of facilities for isolation and the use of advanced techniques (antisepsis). A compromise was reached. The operating room was declared off limits to Porter, but he was allowed to operate in a tent which was pitched on the hospital grounds.

The first patient admitted to the new service in the summer of 1882 was an Irish housewife suffering from retroversion of the uterus and pelvic peritonitis. She was treated medically with "Churchill's Iodine." The first ovariotomy on the service was performed on a 32 year old Irish domestic on April 2, 1883. Fourteen pounds of fluid was evacuated from the cyst and measured, but much more was spilled and lost. The patient died at 9:30 p.m. on the evening of surgery, her pulse and temperature having risen to 140 and 106°.

During the year Porter also performed his first repair of a vesicovaginal fistula on a 32 year old housewife, using Sims's silver wire technique with the patient lying in the Sims position. At the time of discharge there was still a small sinus at the lower end of the fistula site, although Porter had earlier tested the repair by injecting water into the urethra and demonstrated that there was no leak. The patient was discharged "relieved" to be followed closely. This was an apparent, but equivocal success.

THE HUT

In October of 1884 the hospital superintendent informed the trustees that Porter was complaining that his tent was much too cold to work in during the fall and winter. At the annual meeting of November 12, 1884 President Chace reported:

"For some time past a place where ovariotomy and other operations within the cavity of the body may be performed without danger from septic germs, which are liable to be developed in the wards of the hospital, has been needed. This want is now being supplied. A building is in process of erection at a short distance from the Hospital and isolated as perfectly as possible from it. It is to have its own furnishings and its own nurses, and is to be provided with special accommodations for this peculiar class of cases. It is to be hoped that the cottage will be finished and ready for use by the first of the year."

This was a token of the faith that some of Porter's friends had in the potentialities of his pioneering effort. The building was to be located west of the South Pavilion. "The Hut," as it was familiarly known, had its own complement of nurses and instruments and was heated with a coal stove. Each intern during his first six months of service served 24 hour duty there, sleeping in a small room and awakened by the night nurse every hour as necessary to check the condition of any critically ill patients.

The following year the president reported that "The Gynecological Cottage in process of construction . . . has been completed and furnished at an expense of $1,454.74." The building and furnishings were a gift of Doctor John W. Mitchell and friends. During the period from 1882 through 1887 eleven cases of ovarian cyst were admitted to the service. Two were not treated surgically. Of the remaining nine, five recovered and four died. The results were beginning to be more acceptable, and improved progressively thereafter. Porter eventually succeeded in convincing the trustees and the staff that the results of abdominal surgery performed under isolation conditions and with careful antisepsis could be worthwhile.

With the advent of asepsis in the 1890s the Hut was finally abandoned and was converted into a contagious ward. The building survived until a few years ago, when it was taken down to provide space for the multiphasic screening center.

Doctor Porter was a founder of the Providence Lying-In Hospital (now Women and Infants Hospital of Rhode Island) and of St. Elizabeth's Home, a nursing home for sick and disabled females, which still survives.

MEDICAL PAPERS

At the quarterly meeting of the Rhode Island Medical Society of September 15, 1880 Porter read a paper on "Battey's Operation." It was otherwise described as "Normal Ovariotomy," or "the extirpation of the functionally active ovaries for the remedy of otherwise incurable disease." In the paper he also used the newer term of oophorectomy and indicated that it was preferable. He described women whose lives had become unbearable from "frequently returning menstrual pains amounting to extreme agony," often resulting in shattered nervous systems, constant suffering, and malnutrition. He noted that the ovaries were generally diseased, usually accompanied by pelvic cellulitis and peritonitis, pelvic abscess, or hematoceles. It is likely that these were usually cases of pelvic inflammatory disease, but also occasionally of endometriosis. The operation could be performed either vaginally or abdominally through a 3½ inch midline incision.

The dangers of the operation, he said, were the same as those of ovariotomy — shock, hemorrhage, septicmia, and peritonitis. He advocated "Listerism carried out completely

(Continued on Next Page)

in all its minute details, not in the partial and imperfect manner generally adopted."

In 1885 he reported a case of pyosalpinx in a 27 year old housewife in whom he performed salpingo-oophorectomy with uneventful recovery. A case of Caesarian section in a 32 year old housewife was reported in 1894. Vaginal delivery was precluded by a large pelvic tumor. The baby was alive and active upon delivery. A Porro operation with amputation of the uterus was performed. Unfortunately both mother and child failed to survive, the baby from diarrhea and whooping cough 11 weeks after delivery, the mother from postoperative hemorrhage and shock.

After gaining considerable prominence in his specialty Porter's health became seriously impaired, obliging him in 1906 to give up his busy practice. He submitted his resignation to the Rhode Island Medical Society on May 22, 1907, but in lieu of acceptance he was unanimously recommended for honorary membership. He died in Boston of pneumonia on October 17, 1910. He was survived by his widow and two sons, Charles Huntington Porter and Doctor Emery Moulton Porter, who was many years later to become Surgeon-in-Chief at the Rhode Island Hospital.

Thus ended the lively career of a pioneer surgeon and gynecologist, whose professional life spanned the transition from primitive to modern surgery.

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Peripatetics

The following physicians have been certified as Diplomates of the American Board of Gastroenterology: ROBERT D. COLI, ALDEN H. BLACKMAN, JOSEPH D. DiMASE, EDWARD A. IANNUCCILLI, and RICHARD T. McDERMOTT.

* * *

SIDNEY COBB, Professor of Community Health and Psychiatry (Research), has been named president of the American Psychosomatic Society. He is currently conducting research on schizophrenia.

* * *

J. D. KEITH PALMER, Associate Professor of Medicine and Director of Miriam Hospital's Rehabilitation Medicine Division, has been appointed to the National Committee on Social and Environmental Aspects of Rehabilitation of the American Congress of Rehabilitative Medicine. He will serve as Chairman of the Section on Transportation and Architectural Barriers. His first task was to make representations to the Federal Aviation Administrations to reduce limitations on passengers with physical disability, in regulations related to cabin design in commercial airlines.

* * *

Eight first year residents, who have been working at the new Family Care Center at The Memorial Hospital since July 1, are under the supervision of David S. Greer, Director of the new Family Practice Residency Program and Associate Dean of Medical Affairs at Brown, and JOHN J. CUNNINGHAM, Associate Professor of Medicine and Director of the Family Care Center. The Center is designed to be used as a model medical practice to instruct young physicians

(Continued on Page 78)

Physicians Seeking Opportunities In Rhode Island

Edward Walworth, M.D.
936 Tall Pine Road
Mt. Pleasant, SC 29464
Specialty: General Surgery
Wife also: Candace Walworth, M.D.
Specialty: Internist with additional training in Hypertension and Nephrology

* * *

Jack Ende, M.D.
5443 South Cornell
Chicago, IL 60615
Specialty: Internal Medicine

* * *

S. G. Landry, M.D.
Chief of Surgery
Naval Hospital
Annapolis, MD 21402
Specialty: General Surgery

* * *

John Watkins Foster, Jr., M.D.
20 Laurel Crest Road
Madison, CT 06443
Specialty: Diagnostic Radiology

* * *

Hoon Yoo, M.D.
950 Forty-Ninth Street
Apt. 1-A
Brooklyn, NY 11219
Specialty: OB-GYN

* * *

Robert J. Rubano, M.D.
3102 Glencairn Avenue
Toledo, OH 43614
Specialty: Internal Medicine

* * *

John T. K. Wang, M.D.
40 Cindy Lane
Fort Madison, IA 52627
Specialty: Pathology

* * *

Ashwin I. Mehta, M.D.
702 B. James Street
Bridgeport, WV 26330
Specialty: Surgery

* * *

Disesh K. Goel, M.D.
21 Heywood Street
Worcester, MA 01604
Specialty: General Surgery

Ahmad H. Shatila, M.D.
16331 Heather Lane
Middleburg Heights, OH 44130
Specialty: General Surgery

* * *

Duvan Mejia, M.D.
4428 Franklin Avenue
Los Angeles, CA 90027
Specialty: Surgery

* * *

Joel Reisman, M.D.
Health Sciences Center
Room H604, 700 William Avenue
Winnipeg, Manitoba, Canada
Specialty: Ophthalmology

* * *

Alexander W. Sinavsky, M.D.
7-15 162nd Street, Building 12
Whitestone, NY 11357
Specialty: Internal Medicine, Hematology

* * *

M. Naqui, M.D.
21436 Dequindre
#203
Warren, MI 48091
Specialty: Neonatology, Pediatrics

* * *

Richard L. Sartini, M.D.
32 East Lakeshore Drive
Apt. 27
Cincinnati, OH 45237
Specialty: Internal Medicine

* * *

Suresh Puri, M.D.
27 Saldo Circle
New Rochelle, NY 10804
Specialty: Pediatrics

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PERIPATETICS

(Continued from Page 76)

in the specialty of family practice. To this end, Doctor Cunningham, who is a former president of the Rhode Island Medical Society, closed his private office and brought his full practice into the Center. The Center is detached from the main hospital building with a private entrance, and has an atmosphere like that of a private physician's office rather than that of a hospital clinic.

* * *

IRVING A. BECK and FIORINDO A. SIMEONE were two of the first three recipients of the W. W. Keen Awards for Distinguished Service presented by the Brown Medical Association to recognize fellow physician alumni who have made notable contributions to their profession, communities, and alma mater.

* * *

Several staff members of Bradley Hospital were active participants at the 27th annual meeting last month of the American Association of Psychiatric Services for Children (AAPSC) in New Orleans.

IVAN J. LASZLO, Director, Inpatient Program, and Buell Barton, Jr., Director of Swan House, presented a paper, "Predicting Outcome in Residential Treatment."

MAURICE W. LAUFER, Executive Director of Bradley Hospital, authored "In Osler's Day It Was Syphilis," an article appearing recently in **Exploration in Child Psychiatry.**

HUGO TAUSSIG, Medical Director of Bradley's Day Hospital, presented a paper and participated in a round table discussion of children's day hospitals at the Fifth Union of European Paedo-Psychiatrists in Vienna in July. Doctor Taussig is serving as Rhode Island delegate to the American Psychiatric Association.

SALOMON ALFIE, Director of the Department of Psychiatry, participated in a panel discussion of child psychiatric emergencies at the Third Latin American Congress in Child Psychology in Buenos Aires in September.

Wherever you go, forget your telephone calls. We'll take them for you, day or night.

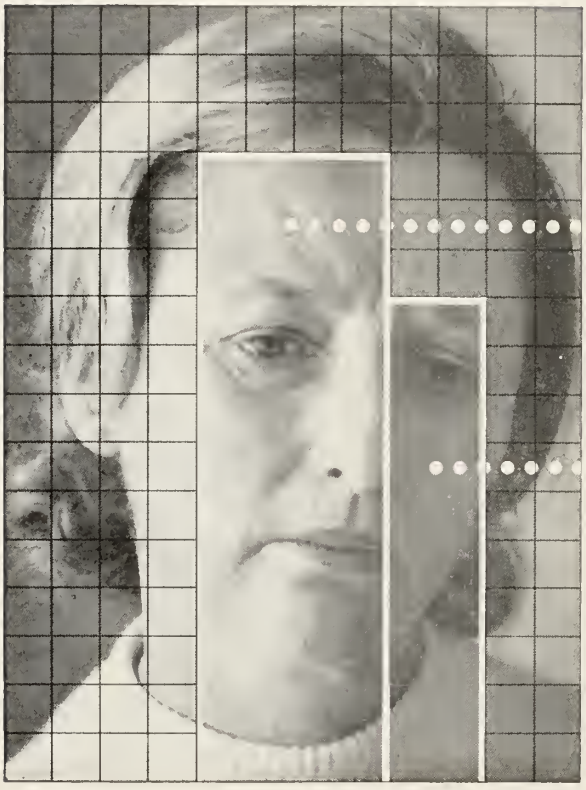
MEDICAL BUREAU
of the
Providence Medical Association

Rhode Island Medical Journal

March, 1976 Vol. 59, No. 3

Special Issue Honoring Helen Moffitt DeJong

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequen and/or severity of grand mal seizures m require increased dosage of standard an convulsant medication; abrupt withdraw may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous in gestion of alcohol and other CNS depres sants. Withdrawal symptoms (similar to those with barbiturates and alcohol) hav occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Ke addiction-prone individuals under carefi

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

MARCH, 1976 VOLUME 59, No. 3

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Providence, Rhode Island 02912
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CONTINUING MEDICAL EDUCATION CALENDAR

APRIL

3-4 "METABOLIC AND NUTRITIONAL DEFICIENCY DISEASES AND THE ORAL CAVITY," Annual Brown University/American Academy of Oral Medicine Symposium. Topics will be as follows: "Vitamins, Nutrition and Over-Nutrition," Frederick J. Stare, M.D., Professor and Chairman, Department of Nutrition, Harvard School of Public Health; "Healing and Protein Metabolism in Trauma and Sepsis," George H. Clowes, M.D., Professor of Surgery, Harvard University School of Medicine, and Lecturer, Brown University Program in Medicine; "Parathyroid Disorders," Jack M. Monchik, M.D., Assistant Professor of Surgery, Brown University Program in Medicine; "Intestinal Malabsorption," Edward A. Iannuccilli, M.D., Clinical Instructor in Medicine, Brown University.

Also, "Hemochromatosis and Iron Loading Anemias," Mario G. Baldini, M.D., Professor of Medicine, Brown University; "Nutrition and Aging," David M. Hegsted, M.D., Professor of Nutrition, Harvard School of Public Health; "Diabetes Mellitus in Adults," Charles B. Kahn, M.D., Clinical Assistant Professor of Medicine, Brown University; and "Calcium Metabolism and Osteoporosis," Joseph R. Tucci, M.D., Associate Professor of Medicine, Brown University.

The Symposium will begin at noon in the Barus Holley Building, Brook and George Streets, Brown University. A banquet will be held at the Brown University Faculty Club at 6:30 p.m., Saturday, April 3, and sessions will begin again on April 4 at 9:00 a.m. For information, please call Mrs. Allen, 863-3337.

3 "CURRENT CONCEPTS IN TREATMENT OF HYPERTENSION." James C. Melby, M.D., Professor of Medicine, Brown University School of Medicine, Chief of Endocrinology, University Hospital, Boston University School of Medicine. 10:00 a.m., George Auditorium, Rhode Island Hospital.

14 "INTEGRATING BEHAVIOR MODIFICATION INTO CURRENT MEDICAL PRACTICE." Brown University Section of Psychiatry and Human Behavior symposium for physicians in general practice and various specialties. Speakers and topics will include: "Principles of Behavior Modification," David H. Barlow, Ph.D., Professor of Psychiatry; "Behavior Modification with Obese Patients," Robert J. Westlake, M.D., Associate Professor of Psychiatry; "Chronic

Pain," David J. Kass, M.D., Instructor in Psychiatry; "The Non-Complaint Patient," C. Brandon Qualls, M.D., Instructor in Psychiatry; " Sexual Dysfunction," John Wincze, Ph.D., Associate Professor of Psychiatry. 8:30 a.m.-3:30 p.m., George Auditorium, Rhode Island Hospital. For further information, contact Mrs. Allen, 863-3337.

16 "THE INJURED CHILD — WHERE HAVE ALL THE PEDIATRICIANS GONE?" N. Paul Rosman, M.D., Professor of Pediatrics and Neurology and Director of Pediatric Neurology, Boston University School of Medicine and Boston City Hospital. 10:30 a.m., Kay Auditorium, Roger Williams General Hospital.

21 "CURRENT CONCEPTS IN FETAL AND NEONATAL CARE," The second annual seminar of the Rhode Island Medical Society Perinatal Committee. Speakers will be John M. Gibbons, Jr., M.D., Associate Professor of Obstetrics and Gynecology, University of Connecticut School of Medicine and Director of Obstetrics and Gynecology, St. Francis Hospital, Hartford; and Paul M. Taylor, M.D., Professor of Pediatrics, Obstetrics and Gynecology, University of Pittsburgh, and Director, Division of Neonatology, McGee Women's Hospital, Pittsburgh. 8:15 a.m.-4:00 p.m. The Marriott Inn, Providence, Rhode Island. For further information, contact Mr. Clarkin, R. I. Medical Society, 331-3207.

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A Message from the Dean

INTERNSHIPS OBTAINED BY BROWN UNIVERSITY MEDICAL STUDENTS, CLASS OF 1976

Close to 13,000 senior medical students from the 114 U.S. schools of medicine have recently participated in a coordinated nationwide matching program which determines the assignment of internships for the year beginning in July, 1976. These students are competing for approximately 15,000 positions. The choices are made by a computerized program which integrated the selections of both candidates and hospitals, matching them against each other. While there are more hospital posts than applicants, there remains considerable competition for the small number of positions in prestigious hospitals.

On March 10, 1976 at 11:00 A.M., the results of this year's national matching program were revealed to all of the graduating medical students of the United States, including the 60 students in the senior class at Brown University. Listed below are the final selections for the Brown students:

California (8):

University of California, San Francisco	
Letterman General Hospital	1
University Hospital	1
San Francisco General Hospital	2
University of California, Los Angeles	
University Hospital	1
Los Angeles County — Harbor General Hospital	1
University of Southern California	
Los Angeles County — USC Medical Center	1
Loma Linda University	
San Bernardino Medical Center	1

Colorado (1):

Colorado University	
University Hospital	1

Connecticut (5):

University of Connecticut	
St. Francis Hospital	1
New Britain General Hospital	1
Hartford Hospital	1
University Hospital	1
Yale University	
Yale-New Haven Medical Center	1

Florida (1):

University of Miami	
University Hospital	1

Hawaii (2):

University of Hawaii	
University Hospital	1
Queens Hospital	1

Illinois (1):

University of Illinois	
University Hospital	1

Massachusetts (7):

Harvard University	
Massachusetts General Hospital	2
Peter Bent Brigham Hospital	1
Beth Israel Hospital	1
Tufts University	
New England Medical Center	1
University of Massachusetts	
Memorial Hospital	1
Albany College	
Berkshire Medical Center	1

Minnesota (4):

University of Minnesota	
University Hospital	3
Mayo Graduate School	
Mayo Clinic	1

Missouri (1):

Washington University	
St. Louis Childrens Hospital	1

New Jersey (1):

Rutgers University	
Overlook Hospital	1

New York (4):

Columbia University	
Presbyterian Hospital	1
State University, New York	
University Hospital (New York City)	1
Edw. J. Meyer Hospital (Buffalo)	1

(Continued on next page)

Rochester University	
Strong Memorial Hospital	1
North Carolina (1):	
University of North Carolina	
North Carolina Memorial Hospital	1
Ohio (1):	
Case Western Reserve University	
Mount Sinai Hospital	1
Pennsylvania (3):	
University of Pennsylvania	
Pennsylvania Hospital	1
University of Pittsburgh	
Montefiore Hospital	2
Rhode Island (17):	
Brown University	
Rhode Island Hospital	4
Roger Williams General Hospital	5
Memorial Hospital	1
Miriam Hospital	7
Tennessee (1):	
Vanderbilt University	
University Hospital	1
Washington (1):	
University of Washington	
University Hospital	1
Wisconsin (1):	
University of Wisconsin	
University Hospital	1

In terms of types of internships, the class is distributed as follows:

Family Medicine	4
Internal Medicine	33
Surgery	5
Pediatrics	7
Obstetrics and Gynecology	3
Psychiatry	1
Ophthalmology	1
Pathology	1
Flexible internship	5

Based on these results, a number of generalizations may be considered: First, Brown University continues to supply a substantial number of physicians to the hospitals in Rhode Island. As of this July, 1976 there will be 42 graduates of the Brown University Program in Medicine in varying levels of house officership in certain hospitals of the region (Butler, Roger Williams General Hospital, Women and Infants Hospital, Rhode Island Hospital, Memorial Hospital, The Miriam Hospital, and the Veterans Administration Hospital). Our earlier projections that Brown medical students, to a significant degree, will establish their practices in the Rhode Island community cannot yet be substantiated, but every passing year makes this more likely.

A second consideration emerges from this information: The 43 students who did not select hospitals in the State of Rhode Island,

(Continued on page 144)

BUTLER HOSPITAL ANNUAL SYMPOSIUM

"ISSUES IN THE PREVENTION OF SEXUAL PROBLEMS" June 4-5, 1976

Butler Hospital, Providence, Rhode Island

"DEVIANT PATTERNS OF AROUSAL IN SEXUAL OFFENDERS: IDENTIFICATION AND PREVENTION."
John Bancroft, M.D.

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Mary Calderone, M.D., M.P.H.

"ATYPICAL SEX ROLE DEVELOPMENT: STRATEGY AND ETHICS OF PREVENTION."
Richard Green, M.D.

"ETHICAL ISSUES IN THE PREVENTION OF SEXUAL PROBLEMS."
Robert Kolodny, M.D.

"CULTURAL VALUES AND THE PREVENTION OF SEXUAL DYSFUNCTIONS."
Joseph LoPiccolo, Ph.D.

"CROSS-CULTURAL PERSPECTIVES IN PREVENTION OF SEXUAL PROBLEMS."
Donald S. Marshall, Ph.D.

"THE ROLE OF ANTI-ANDROGENS IN THE TREATMENT OF SEX OFFENDERS."
Paul A. Walker, Ph.D.

"DOES PORNOGRAPHY HAVE A PREVENTATIVE ROLE?"
Cody Wilson, Ph.D.

Registration fee of $35.00 includes all sessions, coffee breaks, and lunch on Friday. (Saturday sessions will be completed by 1:00 p.m.) RESERVATIONS WILL BE LIMITED.

For additional registration forms and further information write:
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The President's Page

A CALL TO ARMS!! MALPRACTICE REPORT!!

By Stephen J. Hoye, M.D.

I should like to communicate to the members of the Society a summation of the final meeting of the Governor's Malpractice Commission held March 8, at which your four medical representatives spent **11** hours trying to reach the first step on the ladder of malpractice legislative reform. A report made to the House of Delegates on March 10 was favorably received, and I was encouraged to pass it along to you.

First, I feel that everyone needs a schema to make some sort of sense out of a subject as complex as the "malpractice insurance crisis," to consider logically and assign priorities to the various solutions sought by states and doctors, and to ease the problem for their patients, who are bearing the brunt of these increases in the cost of health care — a CONTROLLABLE COST! — if **everyone** is willing to work for it!! Therefore, I should like to present a formula which has helped me to work toward a rational approach in our State. (See Table, preceding page).

The **average claim cost** in Rhode Island has not reached the level of the astronomical

(Continued on next page)

MALPRACTICE

CLAIM COST	FREQUENCY	INSURANCE CARRIER ATTITUDE	=	TOTAL PREMIUM
Not a problem now. Rel. stable inflation.	1975 — 55 1974 — 35 1973 — 27 Cases in superior court.	Stable in R.I. with JUA.		If there were no staggering premium increases, there would be no crisis.

CORRECTIONS NEEDED		ADDITIONAL FACTORS	
1. Limitation on awards: ECONOMIC xNON-ECONOMIC	*1. STATUTE OF LIMITATIONS	*1. DATA COLLECTION IN R.I.	*1. PEER REVIEW IMMUNITY
*2. COLLATERAL SOURCES Eliminate double recovery.	*2. HOUSECLEANING Preserve public confidence in professional ability to police. (BD. OF REVIEW)		*2. INFORMED CONSENT decided by Court.
3. xPERIODIC PAYMENTS of substantial awards.	*3. PRELIMINARY REVIEW (Board of Med. Rev., Mediation Panel)		*3. AD DAMNUM OUT
*4. MEDIATION PANEL ARBITRATION	*4. INJURY PREVENTION (Internal Risk Management)		*4. RES IPSA LOQUITUR
5. xCONTINGENCY FEES			*5. COUNTERSUIT (Sanctions for frivolous suits)
6. INFLATION			6. xLOCALITY FOR EXPERT WITNESSES
*7. AGGRESSIVE CLAIMS MANAGEMENT (Bd. of Med. Review)			
BOX SCORE 3-3	4-0	1-0	5-1

*Achieved in Working Paper
xNot Achieved

awards granted in some states in jury trials yet, but since costs have increased in all aspects of handling filed claims, we felt that some reforms were needed. We were unsuccessful in obtaining a $100,000 limit on non-economic losses, i.e. "pain and suffering," but we were successful in eliminating double or triple recovery in those patients who have already recovered expenses from health care or disability financing. Periodic payments of substantial awards vs. lump sum settlement was decided in favor of the latter, but the acceptance of the Liability Mediation Panel should go far in speeding up the process of claims management. This combined with the Board of Medical Review should considerably reduce the time spent settling a claim, thus reducing all associated costs. The loss of a modest sliding scale for contingency fees does not seem too great since it only applied to the larger awards which are not a major problem for Rhode Island now.

The major thrust of your representatives was in the area of FREQUENCY of claims, which is a problem in Rhode Island. There were 27 cases filed in Superior Court in 1973 and 55 cases in 1975. A statute of limitations of two years from occurrence should be effective in reducing the "long tail" effect which forces insurance companies to maintain enormous reserves. The preservation of society's confidence in the medical profession's ability to "police itself" (BOARD OF MEDICAL REVIEW); early attention to potential claims-producing injuries (IN-HOSPITAL INTERNAL RISK MANAGEMENT); and early review of claims (BOARD OF MEDICAL REVIEW, MEDIATION PANEL) should abort some claims and facilitate early aggressive resolution of those that are filed.

The additional factors of PEER REVIEW IMMUNITY, INFORMED CONSENT and RES IPSA LOQUITUR decided by the court before the jury trial, and removal of monetary amounts mentioned in claim filing should return objectivity and common sense to the judicial process.

The final report of the Malpractice Commission and the Legislative Package to be presented to the General Assembly will be forwarded to all of you as soon as they are available. Familiarize yourself with it and convince yourself and your patients of its worth as the first step in controlling this

(Continued on page 140)

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NOTICE

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Report from the New England Telephone Company

There have been many questions about the New England Telephone Company's decision to insert a "specialty guide" in the physicians' classification in the Yellow Pages. Perhaps the following will shed some additional light on the subject:

It is the intent of the Bell System to have similar "guides" in the major directories throughout the United States. Here in the New England Company, current plans are to insert the guide in the Yellow Pages of Boston (already published), Providence, Worcester, and Springfield. Others can be added as the demand or need increases.

As for reasons, it has been brought to the attention of the Bell System that many independent publications that specialized in listing physicians by specialty were less than complete and, in some cases, were inaccurate. In addition, research and studies have shown that in 1973 over one billion visits were made to doctors' offices and that approximately 35 million adults use the Yellow Pages every year to find doctors and other medical services. In a special survey of people whose directories contained no medical specialty listing, 65 per cent said it would have been easier to find medical help under a medical specialty heading. The need for the users of the directory to be able to quickly find a physician with specific skills is obvious, especially in a society as mobile as ours. All physicians in the Providence area have already been contacted for the directory that closed on March 5.

If you have any questions, please contact: Tom J. Schofield, Jr., New England Telephone Company, (617) 581-4574. You may call collect.

Plan Now To Attend . . . .

THE ANNUAL MEETING

of the

Rhode Island Medical Society

WEDNESDAY, MAY 5, 1976

MARRIOTT INN

Providence, Rhode Island

SOCIAL HOUR — 6:00 P.M.

DINNER — 7:00 P.M.

The Third
William P. Buffum Oration

KIMISHIGE ISHIZAKA, M.D.

Professor of Medicine and Microbiology
Johns Hopkins University School of Medicine

Will Speak on

"Studies On IGE"

SATURDAY, MAY 1, 1976
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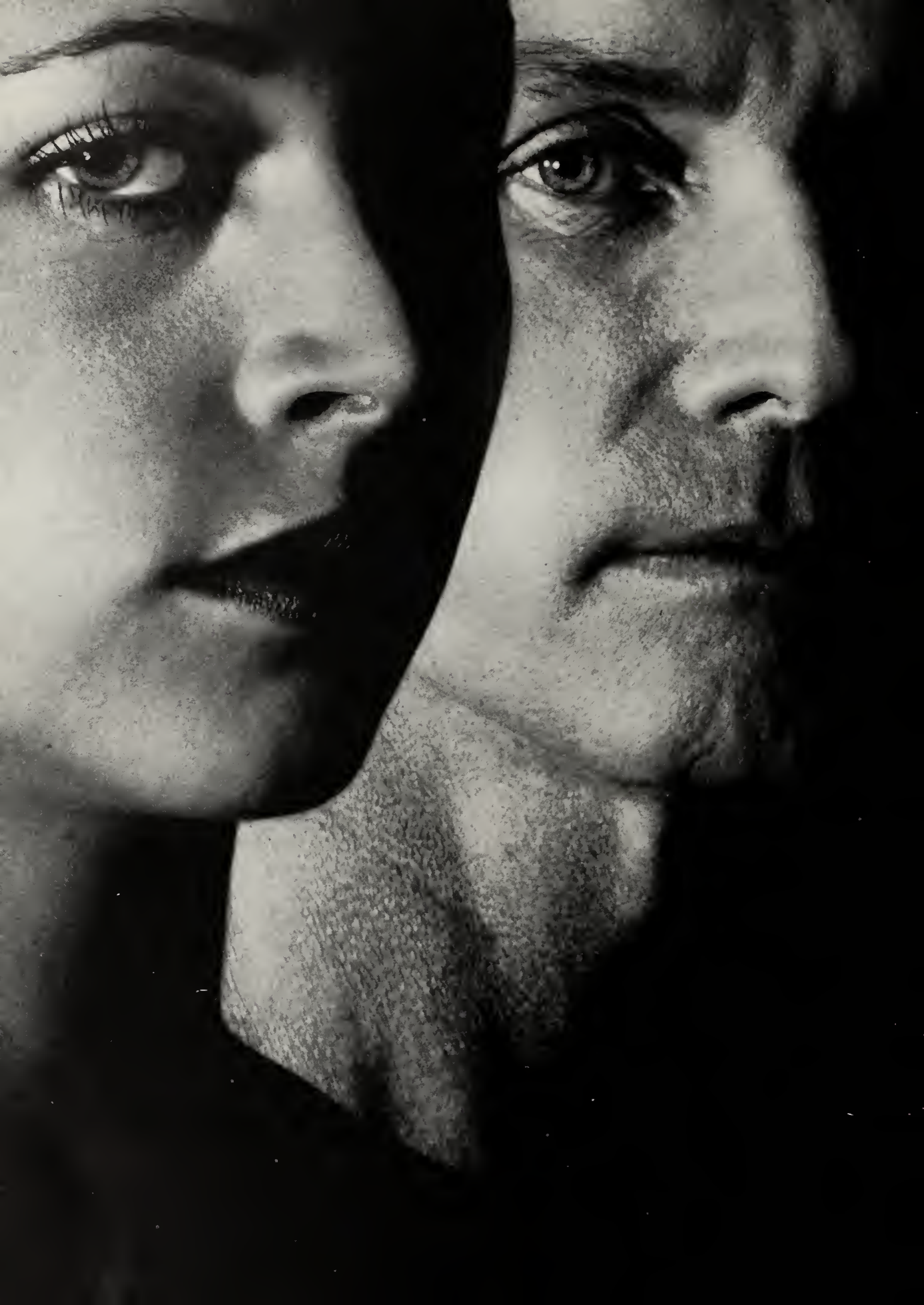

Testing in Humans: Who, Where & When.

the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

P·M·A
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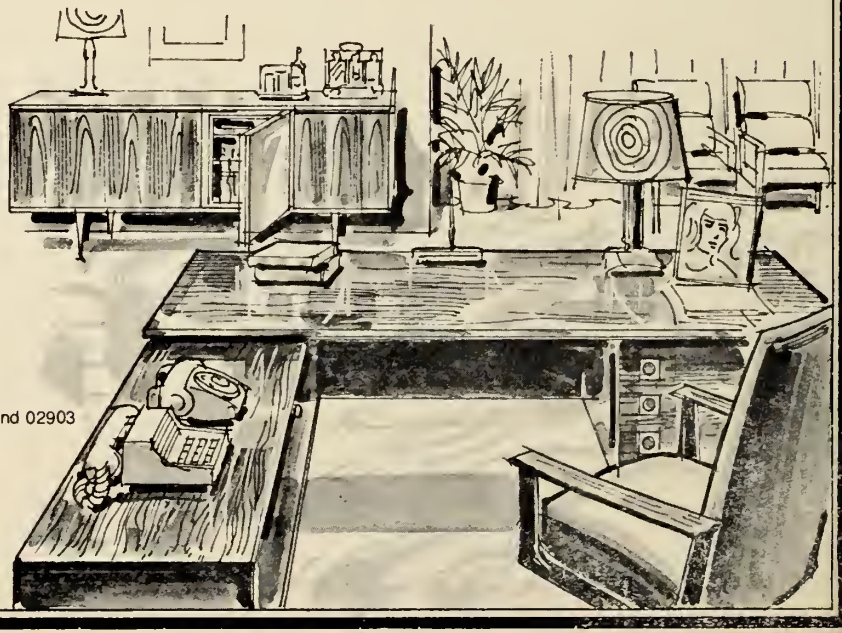

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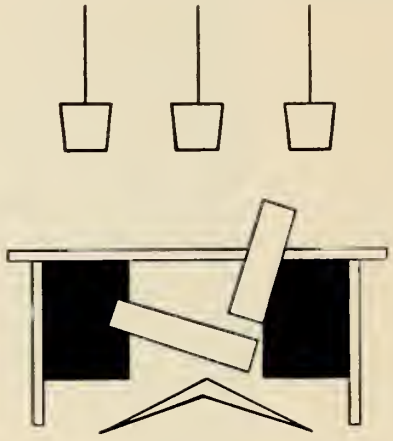

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January 28, 1976

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Librarian 1945 to 1975

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"She served with grace and cheer, without limitation on time, to ensure the maximum utilization of all the resources of this library."

...Inscription on plaque now in the Library (For Captions, see page 133).

Helen Moffitt DeJong

Helen Elizabeth DeJong And The Rhode Island Medical Library

By John E. Farrell, Sc.D.

What is spoken too often perishes in the uttering, and Ruskin emphasizes this point in stressing the permanence of books when he states that "the book of talk is printed only because the author cannot speak to thousands of people at once; if he could he would — the volume is mere **multiplication** of his voice."

The desire to preserve the "written voice" existed centuries before our modern age of electricity provided this generation with mechanical devices to retain on tapes and film the spoken utterings of mankind. And that desire motivated the establishment of libraries of books around the world. In the United States alone there are today an estimated 14,000 libraries of all classifications.

The founders of the Rhode Island Medical Society recognized the advantages and values of a medical library for its members, for when the first slate of officers was drafted in 1812 provision was made for the election of a librarian. Then in 1824 Doctor Caleb Fiske initiated what he hoped would be the start of a permanent library when he gave the Society 72 volumes, mostly in leather bindings, that reported on the several branches of medical science, ancient as well as modern, of that day. In 1850 the Providence Medical Association began to subscribe to leading British and American medical journals, which were preserved to become valuable additions to the growing library. This contribution has been continued through the years, and expanded to embrace medical journals from all parts of the world.

In 1878 Doctor Chase Wiggin offered the Society $1,000 toward a library building fund, and a year later rooms were rented in the Franklin Society's headquarters on North Main Street; the books were stored there, and the Society was committed to the establishment of a permanent library. From that time forward the project grew, with the purchase of books being supplemented by donations by physicians and friends of the library from their personal collections. In 1900 an agreement was entered into with the Providence Public Library to house the Society's collections, and this arrangement continued until the medical library building was erected on Francis Street in 1912.

LIBRARY—A HUMAN UNDERTAKING

A library, however, does not function alone. It is a human undertaking, and, if it is to fulfill its proper role in the community, it must have educated leaders with skilled minds and with special talents. It is only in recent years that progress has been made in defining the preparation that is necessary for one who would aspire to qualify as a librarian, and not be merely a custodian of books.

The librarians of the Society's medical li-

(Continued on next page)

JOHN E. FARRELL, Sc.D., *Executive Director Emeritus, Rhode Island Medical Society.*

brary have made unique contributions. At the organization of the Society's library committee in 1879 a Doctor W. E. Anthony was named as librarian, but he soon asked to be relieved of his position, and in January of the following year Doctor George Hersey was appointed to the position, which he was to hold until his death 33 years later. A tireless worker in the interest of the library, Doctor Hersey undertook the task of acquiring books at the rate of 500 to 1,000 a year, with the result that when the building was opened on Francis Street in 1912 the book collection numbered more than 30,000 bound volumes — a number exceeded at that time by only one other state medical society library in the country. In 1903, while the books were housed at the Providence Public Library, Doctor Hersey named Miss Grace E. Dickerman as his assistant, and when the Francis Street building was opened she came to the Society as Acting Librarian, a post she held until Doctor Hersey's death a year later, when she was named librarian.

In 1930, under provisions of a grant by the federal Works Progress Administration, the Society engaged Miss Helen E. Moffitt, then a student at Pembroke College, on a part-time basis to start the monumental task of a modern cataloguing system of the ever-expanding collection of medical texts. Upon her graduation from college in 1932 Miss Moffitt became full-time assistant librarian, and in 1945 she succeeded Miss Dickerman as Librarian. Now, in 1976, she retires after 46 years' affiliation with the Rhode Island Medical Society and its Library.

NO LIBRARY BETTER ENDOWED

Certainly no library in the country has been better endowed by its official librarians than has our library. Doctor Hersey as the driving factor in accumulating the tremendous collection of excellent medical and allied professional books and journals, and for his assistance in the planning of the library building; Miss Dickerman for her ability to make the transition from public library service to a specialty library with its more demanding duties and functions, and for her competent administration in coping with the needs of the profession and the public in the use of the library; and Miss Moffitt, who married David C. DeJong, a well-known author and teacher, for her organization of the library's collections, her expansion of the functions and services of the library to the public generally, her outstanding ability to make the reference service to the profession the equal of that offered by large staffs in major medical units in the New England area, and for her completion of the difficult task of collating and preserving the Society's rare book collection which is now housed in a temperature controlled room that the Society has designated as the "Helen DeJong Rare Book Room."

It is to Mrs. DeJong that we direct our attention at this time, as she concludes her historic service to the medical profession, the allied professions in the healing art, and the general public of Rhode Island.

One of the great library pioneers, John Cotton Dana, set down 12 rules in his "Philosophy of Reading" as a primary basis for one who would be a librarian. They are: 1. Read. 2. Read. 3. Read some more. 4. Read anything. 5. Read about everything. 6. Read enjoyable things. 7. Read things you yourself enjoy. 8. Read, and talk about it. 9. Read very carefully — some things. 10. Read on the run most things. 11. Don't think about reading but — 12. Just read.

Helen DeJong met those qualifications completely. Keen of mind and intellect, she has the rare ability to read and analyze what is important for retention and for communication to those who seek knowledge. As John Henry Newman explains, "it is a making the objects of our knowledge subjectively our own, or, to use a familiar word, it is a digestion of what we receive, into the substance of our previous state of thought; and without this no enlargement is said to follow."

With the explosion in medical literature after World War II, Helen DeJong indeed faced a tremendous task in keeping abreast of the scientific writings in order that she might function effectively in fulfilling the need of physicians, and the public, for the latest information and references on new phases of health care. The extent of this task is perhaps better understood when one notes that in 1965 David Sarnoff, in an address at Hendrix College in Arkansas, esti-

(Continued on page 134)

Community Resource And Service

The Library Of The Rhode Island Medical Society

By Gertrude L. Annan

The effectiveness of a library may often be measured by the donations it receives. Cherished volumes or local records are not deposited in unused storehouses or turned over to uninterested personnel. From the time of Caleb Fiske in 1824 gifts of books have met with "a friendly reception by the Society." Over the years many distinguished volumes and several fine collections have come freely to a welcoming library. Doctor James Henry Davenport's is perhaps the best known, but more recent gifts, some of great monetary value in this day of inflation, continue to arrive. Recently Mrs. Philip Batchelder presented her husband's holdings of Laënnec, and others still living are contributing from their personal libraries.

COMMUNITY ARCHIVES

Perhaps the most important service, and one essential to a state society, is to provide a home for community medical archives with access to such vital records. Here is a splendid resource for the historian, for history is not alone the recounting of advances to knowledge, especially in medicine. Concern for the patient's care is the goal not alone of education, but of legislation, of public health, of hospitals. Annual reports of departments of health provide dramatic accounts of the necessary measures for community welfare. Hospital reports illuminate the changes and problems of patient care over generations. Where but in this resource are to be found annual reports of Rhode Island's Department of Health from 1878, those of Rhode Island Hospital from 1864, of the Charles V. Chapin Hospital, the Rhode Island Dental Society, the State Board of Pharmacy, of Charities, of the School for the Deaf, and welfare organizations, which have always played an important role in public health? Collectors as well as historians are well aware of the value of such documents, and of the low survival rate in areas where local authorities have not been sufficiently knowledgeable to save them for the future.

GERTRUDE L. ANNAN, *Librarian Emeritus, The New York Academy of Medicine.*

AMERICANA

American medicine and its progress from early days is naturally reflected. Robert Austin's **Early American Medical Imprints . . .** 1668-1820 includes 2,106 entries. Of these, the Library contains 340, one of which is not recorded as present in any other collection. It is Thomas Prior's **An Authentic Narrative of the Success of Tar Water, in Curing a Great Number and Variety of Distempers,** Providence, 1793. Those who recall Bishop Berkeley's early advocacy of tar water will think this most appropriate. There are 21 other items for which Austin found no more than one to four other copies. The earliest American imprint here is the second medical book printed in the colonies, Nicholas Culpeper, **Pharmacopoeia Londinensis; or, The**

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London Dispensatory . . . Boston, 1720, a popular and necessary tool for home medicine where physicians were seldom available. Although lesser known material may be of more interest to scholars than more easily located treasures, it is with pride that this library can show such outstanding works as John Morgan's **Discourse Upon the Institution of Medical Schools in America,** Philadelphia, 1765; Gerard Van Swieten, **The Diseases Incident to Armies,** Boston, 1777; William Smellie, **An Abridgement of the Practice of Midwifery,** Boston, 1786; Benjamin Rush, **Medical Inquiries and Observations Upon the Diseases of the Mind,** Philadelphia, 1812; James Tilton, **Economical Observations on Military Hospitals,** Wilmington, 1813; James Mann, **Medical Sketches of the Campaigns of** 1812, 13, 14, Dedham, 1816; William Beaumont, **Experiments and Observations on the Gastric Juice,** Plattsburg, 1833, and Daniel Drake's monumental **A Systematic Treatise, Historical, Etiological, and Practical on the Principal Diseases of the Interior Valley of North America,** 1850-1854. Among a number of the contributions of that outstanding physician, Rhode Island born, Benjamin Waterhouse, is his two-part **Prospect of Exterminating the Small-Pox,** 1800-1802, especially significant since he was chiefly responsible for the introduction of vaccination in this country. Interestingly, the Society owns a copy once the property of Moses Brown. The holdings contain other works of Daniel Drake as well as excellent collections of Oliver Wendell Holmes and S. Weir Mitchell. Of New England interest are the metallic tractors of the Connecticut physician, Elisha Perkins, who claimed these small pieces would cure many diseases. With the tractors are certificates of their efficacy and several contemporary pamphlets of their virtues. Nathan Smith, the New England worthy, notable for his teaching, may be judged by manuscript notes of his lectures in Hanover, New Hampshire in 1809, taken by a student, Daniel Lyman.

Most significant of course are the materials of Rhode Island physicians of renown. Elisha Bartlett was made memorable by Osler in his **Rhode Island Philosopher.** Well known to all are Usher Parsons, an early president and influential member of the Society; the eminent Isaac Ray, whose work published in 1838 has been called the first modern treatise on the medico-legal aspects of insanity, and whose efforts led to the founding of Butler Hospital; and Charles V. Chapin, whose great contributions to public health need no elaboration. Those not already familiar with the publications of these men would find it rewarding to make their acquaintance.

CLASSICS

Classics of medicine played an important part in a physician's education as late as the early years of the twentieth century. Few did not have the early writers in their personal libraries, and most could read them in the original Latin. The library has a handsome Pliny of 1501, the earliest volume in the collection. Although the **Opera** of Hippocrates is as late as 1657, Galen's **Opera** is present in the excellent editions of 1525 and 1625. The collection titled **Medicae Artis Principes,** published in 1567, offers a number of early classics, and there is also an edition of Celsus of 1552 and Oribasius of 1555. These two compilers preserved for later generations the medical learning of their predecessors and contemporaries. Also in an edition of 1555 there is Avicenna's **Liber Canonis,** called by Morton "the most famous medical text ever written . . . It dominated the medical schools of Europe and Asia for five centuries."

In those volumes is the medical knowledge of the ancient past, and their texts provide the basis of any historical collection. With those must go the giants of later years, and the Library can boast far more than can be cited here, names that are the highlights of any account of the development of medicine and its outstanding discoveries. The first editions of Vesalius are not present, but that of 1642 may be seen and the Leveling of 1783, both handsome volumes, as well as the Vesalian **Opera Omnia,** edited by Boerhaave, 1725, a copy of which was recently offered for $2,500. Nor is there an early edition of Harvey's **De Motu Cordis,** but there is one of 1651 of his **De Generatione.**

The names of anatomists and physiologists are well known, often because they have been used as eponyms for the parts of the body they described. The Library possesses a num-

ber of these authors and others of distinction. The Fallopian tube recalls the Italian physician, a student of Vesalius, whose **Observationes Anatomicae** appeared in 1561, but is here in an edition of 1584. The circle of Willis was named for Thomas Willis who wrote on many subjects. The library owns several, including his **Cerebri Anatome,** 1664, "the most complete and accurate account of the nervous system" up to that time. A copy of this important edition was valued in a recent sales catalogue at $2,000. Oddly the circle of Willis had been previously described by another anatomist, Wepfer, in his **Observationes Anatomicae,** 1658, also present. Another treasure is Richard Lower's **Tractatus De Corde,** 1669, (Morton 761) as well as a description of the Haversian canals which may be read in English along with the author's other discoveries in Clopton Havers' **Osteologia Nova, or Some New Observations of the Bones,** London, 1691. Eustachius, who discovered the Eustachian tube and was the first to give a number of accurate descriptions, is represented by editions of 1728 and 1744.

Many of these great contributions can also boast handsome engraved plates. Others are of varying quality, scientifically and artistically: Felix Platter, 1583; Bauhinus, 1616; Riolan, 1649; Vesling, **Syntagma Anatomicum,** 1651; Diemerbroeck, 1683; Cowper, 1698, and two editions of John Browne on muscles at the end of the century. An amusing work is that of Remmelin, 1619, not admired for its learned discoveries, but for its superimposed plates, showing parts of the body in layers, which have surprisingly survived in a number of copies, highly valued by collectors. Another illustrated work, called one of the best comparative studies undertaken in the 17th century, is Nehemiah Grew, **Musaeum Regalis Societatis, or a Catalogue and Description of the Natural and Artificial Rarities Belonging to the Royal Society,** 1681. Grew introduced the term "comparative anatomy" (Morton, 297).

So many are worthy of mention: Fernel, Fracastorius, Pare, 1594, Sennert, Ruysch, Van Helmont, Mercurialis, Tulp, Bruele, and Descartes **De Homine,** 1664, a work on physiology by the great philosopher, published in 1662 in an edition now valued at $1,500. A few of the later outstanding treasures must be cited. Morgagni's great work, the first in Latin, 1761, and the **Adversaria** of 1762, are accompanied by the English translation of 1769, where one may read the case histories of the "true founder of modern pathological anatomy." William Withering's classic **Account of the Foxglove,** 1785, introduced digitalis. John Hunter made many distinguished contributions. His **Treatise on the Blood, Inflammation and Gun-Shot Wounds,** 1794, was epoch-making, as well as the well-known volumes of Jenner and Laënnec. So highly regarded are the early editions of Jenner that the first and second have been offered for more than $3,000. These were the gift of Doctor George L. Collins, Sr., who died in 1877. Laënnec's **De L'Auscultation Mediate,** 1819, has been valued at $1,250. It may be instructive to point out that the Library's copy, formerly owned by Usher Parsons, was rescued by the late Doctor Philip Batchelder from material discarded by the Rhode Island Hospital. What other valuable books have been lost through such irresponsible actions? Other editions of Laënnec in the Library are of 1823, 1829, 1830, 1834, 1835, 1837 and 1838. Auenbrugger's great discovery of the value of percussion of the chest as a diagnostic measure was published in 1761, but not appreciated until Corvisart's translation appeared in 1808. A copy of that was for sale not long ago for $450. Skoda's work on the subject was printed in German in 1839, in English in 1853. The Library's copy is that of 1854 in English.

ENGLISH TEXTS

For those who must limit their reading to English texts, there is a variety of available subjects. Barrough's **Method of Physic** is a popular text of 1624. Read's **Chirurgical Lectures,** 1635, may be contrasted with Wiseman's **Severall Chirurgicall Treatises,** 1676, a highly valued text ($1,000), by the surgeon of Charles II. Roger Bacon's **A Cure of Old Age,** 1683, is on a subject pertinent today, and there are four different works by the popular writer, William Salmon, whose texts were hardly learned discussions, but were used as home medicine books, as were Culpeper's, and surely indicate the medical practice of the day available to most of the people who seldom had the care of the top medical

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Energy Is Eternal Delight

This issue of the JOURNAL is dedicated to Helen Moffitt DeJong, recently retired Librarian of the Rhode Island Medical Society. Prior to her retirement Helen had served faithfully for 45 years. She was recently designated Librarian Emerita and Archivist by unanimous vote of the Council and of the House of Delegates of the Rhode Island Medical Society. Several years ago she had been elected to honorary membership in the Rhode Island Medical Society. In recognition of her distinguished stewardship the Editors of the RHODE ISLAND MEDICAL JOURNAL and members of the Editorial Board have requested that Helen comment on her many years of dedicated service to the Society, the Library, and the JOURNAL and her outlook on life at this crossroads in her career. This she consented to do. The product is this essay in her own distinctive style.

J.A.D.

MY BACKGROUND

Perhaps it was foreordained that I should become a medical librarian. Everyone in my family, the Moffitts of Greenville, Rhode Island, was a reader, and books were part of life for all of us. I was "read to" until I could read for myself, and my school-teacher great aunts and uncles saw to it that I was well supplied with books from then on. I remember that the first book I owned after I finished with Beatrix Potter and Thornton Burgess was a copy of **Favorite Greek Myths** by Lillian Hyde. This may well have triggered my interest in history. Because I could read, write, and do simple arithmetic, the rule that a student had to be six to enter primary school was relaxed, and I began this new adventure at five. Also, I was introduced to the Greenville Public Library and proceeded to read my way through the file of **Saint Nicholas** magazines, the children's section, the adult section, and the non-fiction. I seem to remember a great many bookcases and living rooms because the family friends were kind and I had access to everyone's library.

My other major activity was being the town tomboy. If my reading habits made me library oriented, my baseball playing, tree-climbing, swimming, canoeing, Indian Scout tracking, and weeding endless rows of vegetables (my two playmates had to finish their farm chores before we could take off) gave me the muscles that have come in so handy when reshelving books and journals. (These may also have helped to keep you so youthful and petite, Helen! J.A.D.)

Medicine was a family tradition, too. My great-great grandfather, Asa Williams Ballou, was a country practitioner in Greenville, Rhode Island; my great grandfather, John Preston Leonard, started practice with Doctor Ballou, went on to get his M.D. degree at Columbia University College of Physicians and Surgeons, wrote many articles for the **Boston Medical and Surgical Journal** includ-

ing several on conditions in Panama and California in 1849, and died at the age of 31 of typhus fever. Both were members of the Rhode Island Medical Society. I also spent quite a bit of time visiting my doctor-uncle in Dorchester, Massachusetts. He had a wonderful library! My mother's sister, Aunt Helen, started her career as a secretary at the Harvard Medical School, became pediatrician John Lovett Morse's receptionist, and ran a nurses' directory in Boston for many years. My very first museum was the Warren Anatomical Museum at the Harvard Medical School.

One of my first ventures when I entered my freshman year at Hope Street High School, Providence, Rhode Island was to acquire a borrower's card at the Providence Public Library. My reading was completely disorganized, but I learned how to track references when something mentioned in one book sent me off for more information on a subject.

High school was followed by a year at Northfield Seminary, Massachusetts so that I could enter college with better preparation — more "jelled as it were, less shy, and more of a social animal."

College was wonderful. Brown University, The Women's College, which later officially became Pembroke College, had started to break away from the required courses pattern and allowed students who qualified to take Honors Programs in the chosen major. These classes were seminars that met once a week, and participants were required to write papers and to do their own research for them — good training for a future librarian! The classes were small and the discussions lively. I took as many history courses as I could handle to supplement the literature seminars. My extra-curricular activities included writing for the literary magazine, reviewing movies for the **Pembroke Record,** acting (during my senior year, we were at last allowed to have guest actors for the male roles and, in turn, were allowed to be guest actors in Sock and Buskin at Brown), and I even wrote an occasional news story for the **Providence Journal.** Social life in those penniless days consisted mostly of group get-togethers to talk endlessly about everything! That, too, was good education, for the groups were diverse consisting of writers, artists, professors, mathematicians, and students from all kinds of backgrounds.

HOW I CHOSE MEDICAL LIBRARIANSHIP AS A CAREER

I didn't. It just happened, and a lucky happening it was. The October 1929 crash and the deepening depression had ended my plans to spend two years at Brown and then go on to Columbia to study journalism. I was fortunate to be able to commute to college and to continue my education by financing my way with a loan, a scholarship, and some odd jobs. Miss Eva Mooar, the Pembroke Personnel Director, offered me a chance to work nine hours a week as a library aide to Librarian Grace E. Dickerman at the Rhode Island Medical Society Library, work that she thought I would enjoy. I reported in October 1930, and I've never left except for a few months in 1932 for final exams and Brown graduation. It was love at first sight — between me and the Medical Library.

After graduation I returned on a full-time basis, and arrangements were made for me to study with the Director of the Boston Medical Library, while working at the same time. This preceptor arrangement was ideal in several ways: My aunt lived within walking distance of the Boston Library so I could spend the weekend with her; and, when lessons in cataloguing and medical reference were over, Mr. James F. Ballard would talk about book collecting, important texts in medical history, the proper care of the practicing physician, and practical suggestions for running a library — information not usually given in formal courses. Many years later, when Henry Schuman wished to buy some of our duplicates I called on Mr. Ballard to check on the offer. Again, he was prompt with help to a novice.

MY MARRIAGE

David DeJong came to Providence to study at Brown after receiving his master's degree from Duke University in 1932. I had graduated, but the friendships with those interested in writing continued; so I met him as he became a new member of the group. He was well known as a short story writer and poet before he came to Rhode Island. He liked Providence and, although he had lived

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in several other parts of the country, always came back. He published nine novels, a biography, four poetry collections, two collections of short stories, many non-fiction articles and translations, and had stories and poetry in magazines both "small" and large. He had intended to teach and did so in Michigan before he went to Duke University, but gave it up for writing and didn't return to the field until he was invited to lecture on creative writing at Chapel Hill.

He taught at the University of Rhode Island Extension and Summer School and, when the classes became too large for what he felt was desirable for his type of teaching, he held private lessons for students who refused to quit. He was invited to lecture at writers' conferences and would have been at the Georgetown University Conference in 1967 if illness hadn't prevented. He loved people and had friends from all walks of life. And he believed that life was for living.

We were married in 1945. The ensuing 22 years, two months, and one week were happy and exciting. We had many common interests, including, particularly, travel. Our first long trip was made in 1949 when I was given a three-month leave of absence, and we went to Europe to visit Dave's relatives for the first time since the war. It was 10 days over and 10 coming back on the old S.S. Veendam, and I loved every minute of it — even the two storms. We stayed in the Netherlands except for one week in Paris and one in London, and I met all the aunts, uncles, and cousins, and cycled for miles and miles. We visited Leyden where some ancestors had lived for a while, where Boerhaave's statue stands, and learned what it was like to live under an occupation.

From then on, whenever time and money permitted, we traveled, and I have continued to do so since his death. I know of no better way to complete one's education and get a perspective on one's own country.

THE BIRTH OF THE LIBRARY AND HOW IT GREW

A Librarian for the Southern District and one for the Northern District of the state were elected in 1812 along with the Rhode Island Medical Society's first slate of officers. Their duties were to collect and preserve all papers, books, and specimens belonging to the Society. Unfortunately, just where the collection was to be kept was never decided, and much of the material was lost. There were several suggestions that a library headquarters should be established, but nothing was accomplished until a committee made a study and recommendations in 1878. On December 11, 1879 the Library Committee elected Doctor Walter E. Anthony as Librarian. His term of office lasted only until January 10, 1880, when George Dallas Hersey took over as full-time Librarian.

Doctor Hersey started with approximately 300 volumes, all that were left of the acquisitions since 1812, and added the periodicals owned by the Providence Medical Association (which had started subscriptions in 1848). The museum specimens were given to Brown University for the instruction of biology students. The collection was housed in the Franklin Society's rooms on North Main Street in downtown Providence until 1900 when the Providence Public Library allowed us to rent space in their new building. When PPL politely but firmly indicated their need for the space in 1910 our holdings had reached 30,000 volumes.

Doctor Hersey was responsible for this enormous growth. He cajoled, bargained, searched attics, garnered the libraries of deceased Fellows, lobbied for the publication of the **Providence Medical Journal** so that the Library could benefit from exchanges and review books, and became an active member of the Medical Library Association, which was organized in 1898. He was elected Treasurer of that organization in 1900 and supported the MLA Exchange (whereby duplicates can be offered between libraries at just the cost of postage) from its start. The Exchange still exists, and we use it for both giving and asking. During his winter sojourns below the Mason-Dixon line, Doctor Hersey continued his search for material, which explains why this Library owns such unexpected items as the **Confederate States Medical and Surgical Journal.** When Mrs. Shirley Garreau, my assistant librarian, and I reached the last layer of accumulated books and journals in the storeroom, we found boxes that had been sent from the south in 1911 and 1912 and had never been opened.

In 1934, of the 238 **medical** libraries in the United States listed in the American Medical

Directory, we were the fourth largest in New England and the 25th in the country. Of course, that picture has changed radically with the growth of medical school libraries and the many mergers of the 1960s, and our present holding would be considered relatively modest. We inherited Doctor Hersey's acquisitiveness, but have begun to realize, as have other libraries, that space is limited (and staff likewise) and that it's time for population control. The Providence group of health sciences libraries started several years ago to curtail duplication and to concentrate on building collections that fulfill the needs of each institution's patrons, relying on one another for the "occasional request." The copy machine has helped this project by making it possible to hold the original material in the library while distributing the information.

WHAT THE LIBRARY WAS LIKE IN 1930

Quiet. Very few laymen knew that it existed, so calls for information were few and we seldom had a reader from the general public, unless it was someone introduced by a Fellow of the Society. There was a limited amount of reference work, some inter-library loan dealings with the Boston Medical Library (by Railway Express with the physician paying the charges), and some reader activity during meetings of the Society and of other organizations. There was no Society executive office, and all of the financial and secretarial work was done by the library staff. The janitor was the only other Society employee, and supervision of his work was one of the Librarian's duties. Gradually, Miss Dickerman turned over all of the reference work to me, and I was given a free hand in cataloguing, sorting, and reshelving the material. There were hundreds of duplicates, and many of these were put aside for use in barter and sale.

Doctor Herbert G. Partridge, long-time Chairman of the Library Committee of the Society, taught me how to sort the valuable items from the dross and furthered my interest in medical history and in important volumes in the field. There was plenty of time to work on the catalogue, but the possibility of running out of funds for this activity was very real. Consequently, the emphasis had to be on speed; so the books were not analyzed thoroughly, and the information on the cards was skeletal. We concentrated on making it possible to locate a volume, and that was about all — and there has never been a chance to go back and do the proper job. One of my colleagues says that her assistant has instructions to burn the catalogue if anything happens to her, as she doesn't wish to have her professional image ruined — and I know what she means! Cataloguing has to be done on the run, unless you have a person assigned primarily to that duty — not likely in our Library in the foreseeable future.

REMEMBERED FRIENDS AND COLLEAGUES WHO INFLUENCED ME

Grace Dickerman, of course, ranks high. We seemed to hit it off from the beginning. I presume that I sensed her loneliness and need for friendship. My late husband said that loneliness was the common human denominator, and Grace was the loneliest person I have ever known. The Rhode Island Medical Society was her life, and, except for her annual vacations at Narragansett Pier, the Library was her real home. She was interested mostly in the work she did for the Treasurer and the Secretary of the Society, while I was most interested in the collections and in references, so we made a congenial pair. She was painfully shy and refused to take part in outside library activities, but had no objection to my joining the Rhode Island Library Association or representing us at a committee meeting. Her closest relatives were aunts who lived in Connecticut and cousins, one of whom was Mary Woolley, the President of Mount Holyoke College. Miss Woolley used to visit Grace once in a while, but Grace rarely paid visits to anyone. I suspect I was closest to being "family."

Doctor Partridge took over where Mr. Ballard left off and continued my education in medical history and book collecting. He showed me how to sort gifts, which books were worth saving, and which should be discarded. He loved to travel and, as many-times Chairman of the Library Committee, urged the Society to let me have travel time.

The colorful Peter Pineo Chase was an unceasing visitor to the Library. We did a great

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deal of reference work for Doctor Chase — for his book on medicine for laymen, for his popular columns in the Providence **Evening Bulletin,** and for the **Rhode Island Medical Journal** during his period as Editor. He and Bernie (his dog — half German Shepherd and half Eskimo) were almost daily visitors. He walked everywhere, and many times we walked down the Francis Street hill at noontime, starting a heated discussion on fireplaces, ranch houses, welfare, or any other question with two sides, and ending when we reached downtown. I don't think either of us ever convinced the other, but it was good verbal exercise and very amiable.

Doctor Jesse E. Mowry was Treasurer of the Society for many years and guarded the finances carefully. His once or twice a week visits for check signing or checking up gave us a chance to discuss problems and get advice, fiscal and medical. He may have furthered my association with the Society, too, as the Mowry homestead and my grandfather Medbury's home faced each other in Greenville and the two families knew each other well.

I can't begin to list everyone who had an influence on me and have just mentioned those with whom I worked. And, as for my present doctor friends — that would take pages!

THE DUTIES OF A MEDICAL LIBRARIAN

At long last, I think we can say that the main duty is to run the Library. It hasn't been that way ever before, since the Society and the Library duties have been completely intertwined with one staff helping the other staff. There have been times when even the janitor's wife joined in to stuff envelopes for a mailing! And the Librarian has always had charge of maintenance, so that it wasn't out of line for me to be studying heating systems and oil burners and supervising the construction crew doing building repairs. As a matter of fact, they were interesting and informative experiences. John E. Farrell, Sc.D., Executive Secretary Emeritus of the Society and former Managing Editor of the **Rhode Island Medical Journal,** and I could write a term paper on the management of exhibits and medical meetings such as the Annual Meeting of the Society. On one occasion, we shopped together for drapery material (we found a fantastic buy in khaki at a mill outlet)! This was after we began having 30 commercial exhibits at the two-day annual meeting, a practice now abandoned. The first exhibit, back in earlier days when the annual meeting was a much simpler affair, was a full-sized replica of a cow that turned its head and mooed at every turn. Grace and I would stand it as long as we could; but, as soon as the doctors went up the stairs to the second floor auditorium for meetings, the moo went off, not to resume until we again heard footsteps on the stairs. But the later exhibits were huge affairs that arrived in huge crates carried by reluctant and argumentative truck drivers and were set up under the guidance of John Farrell, myself, and the staff.

These were important but only once-a-year duties. In addition, the Library staff worked hard for special events. The Sesquicentennial Celebration was one such affair when it wasn't unusual to work five full days and then have five evening committee meetings in a week. It was the research for this and for the sesquicentennial **History of the Rhode Island Medical Society** that made me realize how necessary it is for work to be done on the archives. The End Polio and End Measles drives, which were run from our building, were practically day and night activities. Sunday Lectures and Radio Programs for the general public also added to our tasks.

I have found that the time spent going to library conferences and working on committees for library organizations is very important, and I have done as much of that as I could. The Continuing Education courses given at the larger conferences and the professional workshops have been invaluable in helping me to keep up with new reference materials, new ideas, and the care and preservation of historical materials. When I started my career, there was little in the way of formal education for the strictly medical librarian. Education was a bits and pieces affair.

It has been flattering and fun to serve as a consultant or a lecturer, and I have enjoyed this part of my work. I have found that it isn't just a matter of giving out information, but also of showing your own

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Surgery In Rhode Island After The American Revolution

By Thomas Perry Jr., M.D.

It is almost axiomatic that advances in surgery have accompanied periods of war. One thinks of Ambrose Paré's promotion of the ligature rather than boiling oil for hemostasis in the French campaigns of the 17th century. World War I brought better understanding of the management of surgical infections — such as empyema — and the improved handling of compound fractures produced a dramatic drop in the mortality rate. Massive use of blood and blood substitutes appeared in World War II. The Korean conflict provided a laboratory for the advancement of the new field of peripheral vascular surgery.

Why does one look in vain for such signs of progress in our own Revolutionary War? Two reasons come to mind. Perhaps foremost is that this was a small war from the British point of view, and hardly more than a poorly equipped guerrilla campaign on the part of the Americans. For almost the entire conflict, America fielded less than 10,000 men at a time and often only half that. Only in the Yorktown siege did the combined French and American armies approach 20,000.[1] There was also the matter of anesthesia. Prior to this discovery, surgery of the wounded could consist of little more than hasty control of bleeding, application of splints, and dressing of wounds. There must have been little incentive to try anything new on the suffering victims.

In spite of this, medicine and surgery in America did make considerable progress in a general sort of way from its very low level before the war. At the onset of hostilities we probably had as many as 3,500 practitioners in this country. These were of various levels. A very few had studied abroad and some had been to the recently opened medical school in Philadelphia. The large majority of the better doctors had served apprenticeships and studied under worthy practitioners for a few years before starting on their own.[2]

But anyone could practice medicine. There was no licensure. Particularly in small communities the sick and injured were cared for by well-meaning people with a little book knowledge and an inclination to help. This was usually only a supplemental source of income. Such a system naturally fostered quacks and charlatans of all sorts with their cancer cures and other nostrums.

In this country there was no separation of medicine and surgery as there was in the large centers of England and the continent.[3] However, some practitioners had no stomach for surgery and others became known for their proficiency in that field. In no case

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THOMAS PERRY, JR., M.D., *Chairman, Rhode Island Medical Society Library Committee; Surgeon, Rhode Island Hospital, St. Joseph's Hospital.*

Figure I
Doctor Isaac Senter of Newport, 1753-1799. From the portrait, probably by Samuel King, owned by the Rhode Island Historical Society.

was there enough surgery being done so that a man with a family to support could make it a major portion of his practice.

What the Revolutionary War brought about was the exposure of these doctors not only to one another, but to the physicians and surgeons of their French allies and, in some instances, of the British. Lesser men came in contact with their betters, and some attended medical lectures as part of their army experience.[2]

These changes were naturally felt in Rhode Island, particularly in Newport during the French occupation. However, one of the prime effects of the war on this state was to shift the center of population from Newport to Providence. In 1774 Newport had a population of 9,209 and Providence 4,321. The economic results of the British occupation and blockade eventually led to a reversal of these figures. By 1800 Providence numbered 7,614 and Newport had fallen to 6,739.[4] With the shift in population, Newport, which had boasted many fine practitioners, often foreign trained, took a back seat from a medical standpoint. Furthermore, the Brown Medical School was established in Providence shortly afterward.

It is interesting that the **History of the Medical Profession in Rhode Island** published in 1877[5] lists nine practitioners for Newport at the close of the Revolution and 12 for Providence. Doubtless there were others of lesser stature in each community.

The state of surgery in Rhode Island after the Revolution can be illustrated by brief accounts of three men, all of whom did general practice, but were known for their proficiency as surgeons. They bore little resemblance to their modern counterparts for they practiced without hospitals and without anesthesia. The careers of each began with military or naval service.

ISAAC SENTER

Isaac Senter (Figure I) was a distinguished physician and surgeon of Newport from 1780 to 1799. He can be presumed to have been in the front ranks of his contemporaries, for he had an extensive library and contributed to the meager literature of the time.[5]

Senter, who was born in Londonderry, New Hampshire had his pre-war training under Thomas Moffatt in Newport. Moffatt was born and educated in Scotland. He practiced in Newport from about 1750 until 1772, when his house was mobbed for his Tory support of the Stamp Act. He left the country, but Senter stayed on and joined the Rhode Island troops in Cambridge after Concord and Lexington.

Senter accompanied Benedict Arnold on the celebrated winter march through Maine to Quebec. He has left us one of the better accounts of this gruelling expedition and his subsequent capture and release.[6] His journal dwells largely on the logistics and hardships of the trip, but he does report cases of penetrating chest wound and thigh amputation. Both died, illustrating the primitive state of the art at the time.

Senter left the army in 1779 and spent a brief period in East Greenwich. He left there for Newport, perhaps because of competition with Peter Turner, who arrived at about the same time, also with army experience.

In the stacks of the Rhode Island Historical

Society there are several boxes of Senter's office and household accounts and records. These await careful analysis for, while pretty complete, there are abbreviations to be decoded, and the handwriting is outrageous. They tell us much in spite of this. In 1889, for instance, there are an average of 54 weekly entries, yet, although Senter had a large surgical practice for his time, there are only 39 surgical procedures listed for the year. These include tooth extractions, reduction of six major limb fractures, reduction of two herniae, and the tapping of a hydrocele. Senter was widely sought as a consultant and in this year a fee for being in attendance at a lithotomy appears.

The account books give us no details of the procedures nor the results. They just list them and the amount charged. There are entries for trephining a skull after crossing Narragansett Bay to Charlestown, an operation for imperforate anus, amputation of an apprentice's leg, and excisions of various external cancers, including back, lip, nose, and breast.

In 1787 Senter performed 60 deliveries. By his time physicians were doing most of the obstetrics, which had been largely the province of midwives until the middle of the century.

Isaac Senter undoubtedly lived well, though his fees seem small to us. For a normal delivery his charge was $8, a thigh amputation cost $20, and he received $4.50 for setting a fractured femur. These were the days of inoculating with a weak strain of small pox virus to produce immunity. Senter charged a man $14 for inoculating him and his wife and their subsequent care. House calls were $0.50, but almost invariably there was an additional charge for dressings or medication. The fee for "rising in the night" was $2.

These charges have to be compared with Senter's expenses. He paid a man $1 a day for fence building and $1.50 a day for working on his home. A live hog of 122 pounds cost him $5. His shirts cost $1.50 apiece. His son, Nathan, went to Rhode Island College, now Brown University, for quarterly charges averaging less than $25.[7]

Senter had the respect of all of Newport. He was beginning to publish and would likely have realized his potential for greater accomplishments had he not been stricken in 1799 with a brief fatal febrile illness. He was only 45 years old.

PARDON BOWEN

Doctor Pardon Bowen was in the fourth of five generations of physicians to practice in and around Providence. In fact, his great grandfather, Richard Bowen, was the first with any real medical knowledge to serve the community. He established himself in Rehoboth in 1680 and, so far as is known, was the sole medical resource with any training available to Providence residents until 1700.[5]

Pardon Bowen practiced right after the Revolution. Very little has come down to us about him, and most of what is known is summarized in Thacher's **American Medical Biography,** published in Boston in 1828.[8] In this volume Professor William G. Goddard of Brown states:

"Doctor Bowen confined his attention to no particular department of his professin, but aimed at excellence in all. For his skill in operative surgery, he was highly respected; and during many years, most of the surgical operations in and around Providence were performed by him."

Pardon Bowen graduated from Brown in 1775 at the age of 18 and then prepared for a career in medicine under the direction of his brother, Doctor William Bowen. Between 1779 and 1782 he was the surgeon on three American privateers. Two of these episodes ended in his capture and imprisonment, but, after the manner of the times, he was exchanged to try again. It is impossible to tell how much the surgical experiences on these voyages influenced his career. Likely he encountered few operations, and perhaps all we should deduce is that he took these positions because of his interest in surgery, which he kept throughout his practice. After leaving the sea he studied in the medical school in Philadelphia in 1783.

In spite of Goddard's remark about the extent of Bowen's surgical practice, he published no papers in that field, although he did write an interesting paper on the yellow fever epidemic in Providence in 1805.[9] This is not surprising. While a man might do most of the surgery in Providence, there just

(Continued on next page)

wasn't enough, and most of the income to support his family had to derive from medical cases.

Doctor Bowen was not on the faculty at Brown. Nevertheless, he is known to have done dissections before the Brown medical students,[10] and in 1812 he received the second honorary M.D. degree granted by that institution, the first having gone to the celebrated Doctor Solomon Drowne. His professional activity was terminated by a stroke in 1820, though he lived another six years.

PETER TURNER

In the Rhode Island Medical Society Library files, there is a manuscript titled **Early Medical History of Kent County, Rhode Island,** by James Henry Endredge, M.D.[11] So far as is known, this paper was not published until it appeared in the Rhode Island Medical Journal in 1940. The paper is undated, but the record shows that Doctor Eldredge was president of the Rhode Island Medical Society in 1858-1860. This account makes interesting reading and is packed with information.

The purpose of the second half of Eldredge's paper, and the real reason for writing it, is to tell us about Doctor Peter Turner, son of a Newark, New Jersey, physician who settled in East Greenwich, Rhode Island, after service with a Rhode Island regiment during the Revolution. He is known to have been at the Battle of Red Bank, where he treated large numbers of casualties, most of which were among the Hessian enemy. Their dying commander, Count Donop, presented his sword and spurs to Turner in gratitude for his kindness.

Peter Turner became the surgeon for East Greenwich and for 10 miles or more around in South Kingstown, Exeter, and West Greenwich. No details of his practice survive, but Doctor Eldredge states, "I can call to mind many instances that I have heard of, of broken limbs, fractured skulls, and gun shot wounds that were treated by him successfully and excited . . . wonder and admiration." He also recounts the story of a young boy who accidentally injured his femoral artery with a knife. Turner, returning by boat from a consultation in Warren, was told of the injury, mounted a horse, and rode hard for several miles to his hemorrhaging patient. With proper dispatch, he made the diagnosis and proceeded to save the boy's life, and fortunately his limb, with an emergency ligation of the artery.

Like others of his time, Turner was known for his surgery, but he did a mixed type of practice. Perhaps his greatest accomplishment for the profession in the area was the establishment of sufficiently high fees so that he could live from his practice rather than having to find supplemental sources of income as had his predecessors. His fees were, of course, resented at first, but he stuck to his point and won. Eldredge felt that Doctor Turner's fees were neither unjust nor unreasonable.

Turner had many students who later practiced in this state and elsewhere. He lived until 1822, but he was in failing health with a paralytic complaint for at least the last year of his life.

These were three courageous men for, although their surgery was limited in scope, they pretty much made it alone on subjects who suffered great pain at their hands. Obviously their patients showed even greater fortitude. Their work was at least average or a little better for the time. It was doubtless improved by their opportunities for learning and experience in the Revolution. Theirs was a part of the slow advance that laid the foundation for the great strides made in the next century with the advent of medical schools, hospitals, and such scientific advances as anesthesia and antisepsis.

This paper has been written without Helen DeJong's knowledge, except that it is impossible to do anything around the Rhode Island Medical Society Library without her knowing something is going on. Nonetheless, it is derived almost entirely from sources she had previously brought to the author's attention. It is an honor and pleasure to contribute to the journal dedicated to this busy, cheerful, scholarly friend of all the members of the Rhode Island Medical Society.

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The Davenport Collection: An Addendum

By Irving A. Beck, M.D.

The Rhode Island Medical Society Library contains a unique collection formed by one of its members, Doctor James Henry Davenport and presented by him to the Society in 1926, two years prior to his death.

An appreciation of Doctor Davenport by Doctor Robert V. Lewis[1] and an editorial describing the collection and its subsequent exhibits[2] have appeared previously in the **Journal.** Briefly, the collection consists of literary, as opposed to purely scientific and medical works, by and about physicians. The first of its kind, it is still one of the finest, as Doctor Davenport left a fund, the income of which has been used to acquire additional volumes, which literary doctors of medicine have continued to publish in the field of fiction (including many best-sellers — a tip to members avid for leisure-time reading), poetry, biography, history, travel, and essays. Members have also contributed volumes to the collection. Further information about the collection and its implications for the interrelationship of medicine and the humanities have been noted in the above-cited references.

In 1926 Doctor Davenport published privately a catalogue of his collection in a limited edition of 250 numbered copies. This catalogue is a handsome volume, gilt-edged on top, untrimmed, lettered in gilt, and bound in plain boards with a red cloth spine. The paper is of good quality, still unfoxed after 50 years, and the letterpress typography large and distinct. Except for a facsimile of Doctor Davenport's bookplate on a front free endpaper, it is not illustrated. Doctor Davenport's own "working copy" of this catalogue is in the library. Although his foreword notes that there were 1500 volumes in his collection, the library received 1274, as attested by absences in the check-list. The fate of the missing volumes was unknown.

Such was the situation until three years ago, when the writer received a phone call from a second-hand local bookseller, that he had a copy of a book with the ex-libris of a doctor, and wished to know if I were interested in it. Upon learning that the name was Davenport, I quickly visited the shop and was shown the volume, which will be further described below. He casually mentioned that on the bargain table there were a few others with the same bookplate. A rapid search through mounds of well-worn books piled helter-skelter revealed four more volumes, all of fiction, with the Davenport plate. Two of these were books called for in the catalogue, one of them containing a signed letter from the authoress ("A Woman Hobo") to Doctor Davenport, but absent from the library's collection. These books were purchased and installed in their rightful location. How many others were previously disposed of as "bargains" is unknown.

(Continued on next page)

IRVING A. BECK, M.D., *Lecturer in Medical Science, Brown University.*

The particular volume he had called me about was another copy of the Davenport Catalogue — but what a copy! It was thicker by nearly a third and was hand-bound. The spine, adjacent quarters, and the corners were in gilt-edged, rich, red Morocco leather, and the rest of the boards were covered with a vary-colored hand-laid antique type marbled paper. The spine was corded, and the title and author inscription was hand-tooled in gold. The serial number was 101.

The reason for the increased thickness was soon evident. In addition to the marbled endpapers, prints and engravings of various portraits of authors had been bound in, adjacent to the listing of their contributions. Many of these had been skillfully inlaid to keep the page size uniform, and all were protected by a leaf of tissue paper. On the reverse of one print, the name "Davenport" had been pencilled in. The authors portrayed were: Sir Henry Halford, T. H. Huxley, John Keats, Thomas Linacre, John W. Francis, Oliver Wendell Holmes (twice, and the only one to have two portraits, each representing him at a different age), J. C. Warren, Mark Akenside, Sir Samuel Garth, J. G. Percival, Mungo Park, William Harvey, John Armstrong, and John Hunter.

Why these particular authors were selected from so many equally eminent is not clear, except for Doctor Holmes. In the foreword Doctor Davenport writes: "My interest in this subject was first aroused when as a student under Doctor Oliver Wendell Holmes in the Harvard Medical School, I learned to respect not only his medical wisdom, but his sound philosophy of human nature . . . . This led to the beginning of my library."

With the assistance of Mr. Daniel J. Knowlton, a professional book-binder, a book was located in his collection which was bound in exactly the same fashion, even to the type of marbled paper used in Doctor Davenport's catalogue. It was known that this particular volume had been bound in the 1920s, thus furnishing an approximate dating for this specially bound catalogue, and coinciding with the date of publication.

All of the evidence indicates that this was Doctor Davenport's personal catalogue, which he apparently chose to retain at the time of his gift. It was found among other books from his library, including one containing a letter to him. It contains the two portraits of his hero, Doctor Holmes, and who else would have gone to the considerable expense of special binding and Grangerizing? This custom, incidentally, was more common in the 18th century when books were more highly cherished as physical objects than they are now, and owners frequently had their books specially bound and extra-illustrated, even to the point of vandalizing other works to do so.

Booksellers are notoriously reticent about the sources of their material. All that I could learn about the possible provenance of the catalogue and other books from Doctor Davenport's collection was that it had been brought in by a book scout from "an attic on Gano Street."

It would appear that Doctor Davenport chose to retain for himself his specially bound and extra-illustrated copy, but why the other volumes, of no great intrinsic value, failed to arrive, will probably never be solved, and it is likely that many have been dispersed via the second-hand bookshop route. In this respect it creates speculations similar to those about the fate of the early library of the Rhode Island Medical Society.[3]

The growth of the Davenport Collection in recent years has been largely due to the special knowledge and interest of Mrs. David DeJong, the Society's longtime librarian, now "retired" to the position as librarian emerita and archivist.

Because of her dual competence in general literature and in that of medicine, she has been in a position to know of physician-authors and, since the M.D. is rarely appended to their nonmedical writings, to select judiciously their contributions or material pertaining to them. The literature is often so far afield from medicine — viz. the literary bibliographies of Sir Geoffrey Keynes, especially on William Blake, or the current best-seller "The Great Train Robbery" by Michael Crichton — that only one acquainted with the world of books would know that the authors were physicians. Of course some, as in the case of Keynes and S. Weir Mitchell, also wrote notable contributions in medicine and surgery.

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Agostino Bassi (1773-1856)*

A Businessman Turned Parasitologist To Save His Business

By Francesco Ronchese, M.D.

Agostino Bassi was a scientific phenomenon. He was a landowner and produced sheep wool, rice — and silk, competing with the neighboring European markets. The silkworms became sick, covered with a mortar-like substance **(calcinaccio)**, and died.

Armed with a primitive microscope (Figure IV), Bassi saw living material in this mortar-like substance and, preceding Pasteur, stated that whatever was killing his silkworms was a living organism. The parasitic mold was called **Botrytis Bassiana** in 1835. In 1849 he was able to destroy it by fire, chemicals, and common cleanliness and succeeded in saving his silk production.

Schönlein stated that Bassi's studies promoted the discovery of his **Achorion**, a trichophyton, as the cause of **tinea favosa.** In 1840 Bassi maintained that gangrenous ulcers were due to living parasites and proposed the use of parasiticides, preceding Pasteur and Lister.

Bassi also authored an essay on pellagra, which he considered to be due to molds.

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FRANCESCO RONCHESE, M.D., *Clinical Professor of Dermatology Emeritus, Boston University; Former Chief of Dermatology, Rhode Island Hospital.*

*From: DOCUMENTI BASSIANI, A., in quarto, profusely illustrated, 40 page monograph of Luigi Belloni, professor of the history of medicine at the University of Milan, Italy, published on the occasion of the first centenary of the death of Agostino Bassi.
Illustrations and data published by permission of Prof. Belloni.

Figure I

Agostino Bassi in his academic uniform and decorations of scientific societies.

DEL MAL DEL SEGNO

Calcinaccio o Mosrardino

MALATTIA CHE AFFLIGGE

I BACHI DA SETA

E SUL MODO

DI LIBERARNE LE BIGATTAIE

ANCHE LE PIU INFESTATE

OPERA

DEL DOTTORE AGOSTINO BASSI

DI LODI

la quale oltre a contenere molti utili precetti intorno al buon governo dei Filugelli, tratta altresì delle Malattie

DEL NEGRONE E DEL GIALLUME

TORINO 1837

PER GIUSEPPE VACCARINO

con permissione.

Figure II

Title page of the first of many books and essays published by Agostino Bassi. Calcinaccio is a mortar-like disease of silkworms (i bachi da seta).

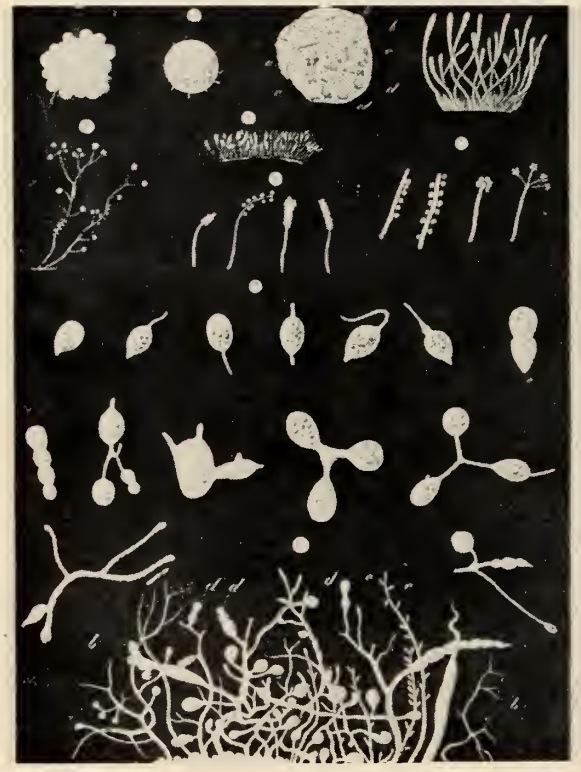

Figure III

Agostino Bassi on on Italian postage stamp of 1953 commemorating the VI International Congress of Microbiology. The frame of Bassi's picture is composed of butterflies, silkworms, and mulberry leaves.

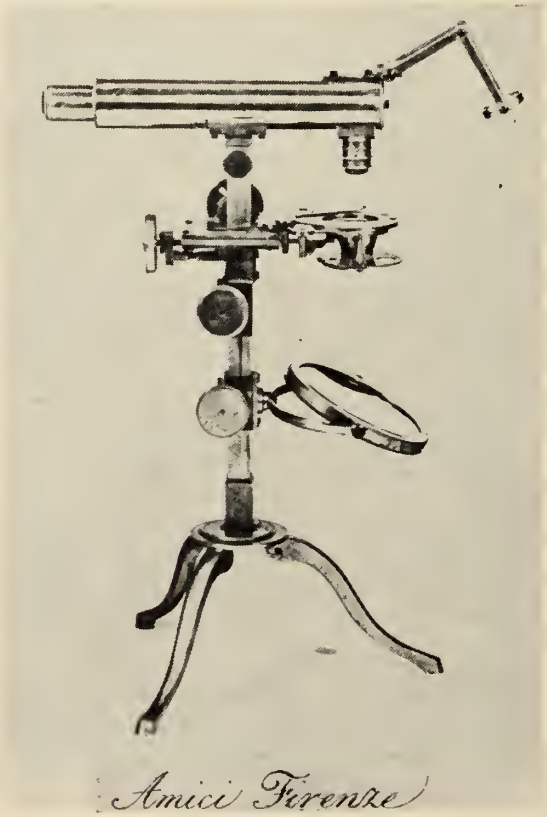

Figure IV

A primitive microscope and what Bassi saw through it.

Frank Taylor Fulton, M.D. 1867-1961

Physician And First Cardiologist To Rhode Island

By John F. W. Gilman, M.D.

Frank Taylor Fulton was born 108 years ago on April 28, 1867, on the family farm in Westmoreland County, Pennsylvania, two years after General Robert E. Lee surrendered the Confederate Armies at Appomattox Court House. The Fulton farm was a hilly and stony property of about 300 acres, 30 miles East of Pittsburgh at Mendon, Pennsylvania, farmed by his father, Robert Fulton and his mother, Harriet Jewett Trussell Fulton. Frank was the sixth child of an eventual eight children, the oldest of whom was William, father of Marshall N. Fulton. Frank Fulton in his later years after retirement from practice wrote a 250 page manuscript of his life which detailed things that had impressed themselves on his memory. According to his autobiographical notes the immigrant ancestor of the Fulton's was Abraham Fulton, born in 1712 in Northern Ireland; successively followed by Robert, born in 1751 in Ireland; William, born in Pennsylvania in 1787; and then Robert, born on the farm in 1832. Abraham had sailed from Londonderry in Northern Ireland on the sailing ship, **General Wolfe** in 1772. A Presbyterian, he carried with him a document signed by the elders of the Church to the effect that the Fultons were "Sober Christians free of public scandell or censure." This document has been carefully retained by the Fulton family for the two centuries since its origin.

In 1870 when his father was 38 and Frank was three years old, the family sold the Pennsylvania farm and moved to the environs of Keokuk, Iowa, on the east bank of the Mississippi in Hancock County, the Illinois side of the river, where Frank was raised. He grew up near the banks of the river, lived for a time in the tiny town of Warsaw on the Illinois shore, directly opposite the mouth of the Des Moines River. That river in its lower reaches separates Iowa from Missouri. Here he attended district school for five months of each year and for the remaining seven months helped with the farming. The country about Keokuk was some 50 miles up river from Hannibal, Missouri, the river town where Mark Twain (Samuel Clemens) was raised 30 years before Frank Fulton. The two men thus were raised in a similar environment, although Mark Twain, born in 1835, was a generation ahead of Frank Fulton.

The stories developed by Mark Twain and later transcribed in some 40 volumes have described the middle America of the 19th Century for all Americans in **Tom Sawyer, Huckleberry Finn,** and **Life on the Mississippi,** his three greatest books. While the two

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JOHN F. W. GILMAN, M.D., *Physician, Rhode Island Hospital.*

Read before the Friday Night Club, October 17, 1975

FRANK TAYLOR FULTON, M.D.
Original in Staff Room, Rhode Island Hospital.

men grew up in a similar river landscape, they developed in different directions from a different emphasis already evident in their childhood. Mark Twain grew up with adventure and the river; Frank Fulton grew up with the farm, the land, and scholarship as his background. Samuel Clemens emphasizes this difference in his pseudonym, Mark Twain, the cry of the leadsman on the riverboats for two fathoms or 12 feet of river depth. At age 12 Mark Twain's father died and Mark Twain was then withdrawn from school, apprenticed to the printer of the **Hannibal Journal** — the end of his formal schooling and beginning of his workaday life. His chief interest was the river and its shipping, and his persistent desire was to be part of a stern wheeler. In 1857 at age 22 he negotiated with an old river man, Horace Bixby, to teach him navigation of the 1200 miles of the lower river from St. Louis to New Orleans. He accomplished his training as a pilot in 18 months, then used his skill as a riverboat pilot for two-and-a-half years until the beginning of the Civil War shut down the river traffic completely. Much later in 1883 when he lived in Hartford, Connecticut, as a writer, he published a book, **Life on the Mississippi**, a narrative of all the colorful passage of the Mississippi by steamboats. He wrote: "The face of the water in time becomes a wonderful book — a book that was a dead language to the uneducated passenger, but which told its mind to me without reserve . . . . "

But with his catalogue of knowledge about the river, he realized that his earlier romance and love of beauty for the river had been lost. Twain, the philosopher, related his loss to the human experience: "Since those days I have pitied doctors from my heart. What does the lovely flush in a beauty's cheek mean to a doctor; but a 'break' that ripples above some deadly disease." Where Mark Twain before the Civil War emphasized the water of the river in his life and struggled with a difficult education, Frank Fulton after the War followed his father on the farm, learned at age 12 to hunt ducks with a shotgun on the river flyway and later became a devotee of horse raising and rearing. And Frank Fulton filled his later young life with education, first at the University of Illinois, later Knox College, and finally the Medical School of Johns Hopkins University in Baltimore, Maryland where he joined the third class and graduated with an M.D. in 1899. Frank Fulton and Mark Twain both grew up on the Mississippi River, but their young lives and temperaments were very different; and so were their later lives. Mark Twain said: "By temperament I was the kind of person that does things. Does them, and reflects afterwards." Frank Fulton would have precisely reversed that quotation for himself.

The Johns Hopkins University in Baltimore was first certified in 1867 and graduated its first class of graduate students in 1876. At that time it was the only graduate university in America, and its courses were initially highly experimental. The medical school also was initiated as a graduate school and admitted its first class of students, all of them graduates of other universities, in 1893.

Frank Fulton came to Baltimore in 1894, but was required by the medical school to take a preliminary year of study in biology, chemistry, and physics to prepare himself for graduate levels of medical school admis-

sion. Prior to his arrival in Baltimore he had secured letters from President John H. Finley of Knox College to President Daniel Coit Gilman of Hopkins; to the registrar, a Mr. Ball; and to Doctor Henry Hurd, the superintendent of the John Hopkins Hospital. And with the help of these gentlemen he secured a job as tutor of a Towson boy that helped finance his study. Subsequent summers were devoted to jobs as salesman. One year in Nova Scotia he sold kitchen ranges through the countryside, another year with horse and cart he rode the midwest countryside selling a two-volume encyclopedia — efforts that helped pay for his schooling.

In 1895 he joined the third class of medical students at Johns Hopkins and in due course graduated with an M.D. degree in 1899. These were the early years of greatness at the Hopkins when William Osler, James Stewart Halstead, William Henry Welch, and Howard A. Kelly served as professors — as immortalized in the famous John Singer Sargent portrait of this famous four. The ferment in medicine in those days was intense, and the academic range of the Hopkins medical effort was wide. In Frank Fulton's first year, 1895, while studying histology under Doctor Lewellys F. Barker, class was interrupted one morning by the professor to report on the discovery of x-ray by Wilhelm Roentgen in Belgium — a discovery that Doctor Fulton later was to develop in Rhode Island Hospital and the State of Rhode Island. And it was here that Osler taught Frank Fulton how to do lumbar punctures, which he would later introduce to Rhode Island in the course of treatment of bacterial meningitis with serum from Doctor Simon Flexner of the Rockefeller Institute. Hopkins was great in those early days because it was the first medical school in America to de-emphasize the formal lecture in favor of direct patient contact, laboratory work, and small student conferences — a technique of medical instruction that would gradually become the pattern of instruction for the whole country in the next several decades.

In 1899 Frank Fulton graduated from Johns Hopkins Medical School with an M.D. degree in the third class of that distinguished university, the prelude to 62 years of doctoring. Following graduation he obtained a job as intern in pathology at Boston City Hospital for a year under Doctor Frank Mallory. And then in 1900 he was hired by the Rhode Island Hospital in Providence as the first full-time laboratory doctor and pathologist for that institution, which had built a laboratory but had no one to run it. Here in Providence began the work that was to occupy the rest of his long life of 93 years.

For the first seven years of his professional life he lived in the Rhode Island Hospital, carried on all the early laboratory investigations as pathologist, and effectively introduced laboratory and scientific medicine to Rhode Island, both hospital and state. In 1902 he undertook the introduction of x-ray to the hospital — the procedure he had first heard about in 1895 when a student at Hopkins.

When the x-ray equipment was installed at Rhode Island Hospital, the operation of the new department was then turned over to Doctor William Cutts.

In the summer of 1905 he took his first three-month vacation, starting in Boston where he worked with Doctor Joseph Pratt, who at that time was deeply concerned with pulmonary tuberculosis. Doctor Pratt, whom he had known at Hopkins, was involved in the home treatment of tuberculosis, as opposed to sanitarium treatment — then the usual treatment method. In Europe for two months that summer he visited the tuberculosis facilities in London, France, Hamburg, Berlin, and Leipzig. He was much impressed at that time to find that most patients were found to have tuberculosis in generally advanced stages. On his return to Providence he considered methods for much earlier diagnosis of tuberculosis and devised a plan for examination of patients while at work — a plan he proposed to Henry Sharpe and William Viall of Brown and Sharpe Company and Jesse H. Metcalf of Wanskuck Mills, who supported his project and facilitated his use of their companies for case finding among people at work. The North End Working Girls' Clubhouse became the clinic for ambulatory cases, treatment was instituted on a weekly basis, and early care was emphasized. This was probably the first effort at

(Continued on next page)

industrial medicine in the United States. Doctor Fulton in his notes commented with gratification on how effective early treatment appeared to be. This ambulatory treatment of tuberculosis came to the attention of the newspapers and embarrassed him when details of this program were covered by the **Providence Journal** in a week-long series of articles. However, the reportage improved his clinic operations and immersed him deeply in tuberculosis problems around the state. Doctor Clarence O. Sappington of the National Safety Council in a letter to Doctor Fulton dated January 23, 1931, 25 years later, confirmed this effort with tuberculosis at Brown and Sharpe and Wanskuck Mills as the first organized attempt to examine workmen in industrial establishments. This brief notice thus establishes Doctor Fulton as one of the pioneers in American Industrial Medicine.

In 1908 he obtained from Simon Flexner of the Rockefeller Institute a new serum prepared from horses against meningococcal meningitis (the organism then called **micrococcus intracellularis**). This material had originally been developed in parallel to Behring's horse serum against diphtheria and was made available to people known to Doctor Flexner as capable of submitting reports on the injections. The meningococcal serum was injected through the same needle used to perform lumbar puncture, usually daily, an ounce at a time. Generally, successful treatment required three or four injections. While lumbar puncture was a rarely performed procedure at that time, Frank Fulton had earlier been instructed in the procedure by Doctor Osler and so was naturally a perfect selection. For two years he controlled this serum in Rhode Island, saw all the cases of meningitis, and reported on a much reduced death rate and relief of many complications. After 1910 the serum was released for general medical use by Doctor Flexner, and the experimental phase was terminated. Then in 1910 at the conclusion of the meningitis experiments, Doctor Flexner offered Doctor Fulton supplies of Salvarsan, the new "606" injection of arsenic prepared by Professor Paul Ehrlich in Germany for the treatment of syphilis. At the Rhode Island Hospital syphilis was then treated by Doctor Harry Kimball in the out-patient skin department. Frank Fulton's claim that the disease was a constitutional disease, suited to the medical department, initially met with resistance. The use of intravenous injections of Salvarsan was so obviously successful that syphilis was soon recognized to be a medical disease appropriate to admission and intravenous therapy. It was this disease and this therapy that introduced the whole procedure of intravenous treatment of disease in the United States — a therapeutic route that has become a major activity of the modern hospital.

After living seven years in the Rhode Island Hospital, Doctor Fulton moved to 169 Angell Street in Providence with a young gynecologist and surgeon, Doctor Herman C. Pitts, who was to remain a life-long friend and companion. He continued his intermittent summer trips to England and Europe. In 1912 he visited Sir James MacKenzie, who had developed the polygraph for heart tracings. This famous physician and cardiologist in turn referred him to Sir Thomas Lewis, who was actively engaged in developing the electrocardiograph invented earlier by Willem Einthoven in Germany. This activity developed in Frank Fulton an increasing and lifelong interest in cardiology and led him from pathology at Rhode Island Hospital to Clinical Cardiology and the founding of the Heart Station after he introduced the first electrocardiograph machine to Rhode Island Hospital in March of 1915. Prior to that introduction he had already in 1914 discovered and described two Providence jewelers who suffered from atrial flutter, which he illustrated with polygraph tracings in the **Archives of Internal Medicine** — the first cases of this arrhythmia that had been identified in the United States. In effect he was at the opening door of what was to be the medical specialty of cardiology largely developed in the 20th Century.

Doctor James Herrick in his book a **Short History of Cardiology,** published in 1942, writes that cardiology began in 1628 when William Harvey published **De Motu Cordis,** his famous account of the circulation of the blood. Here was clarified the whole physiological problem of the heart and the circulation — the first step in truly scientific

medicine. Another of the famous and major contributions to cardiology was made by William Heberden (1710-1801), who described and named angina pectoris in 20 of his patients in 1772. The series had increased to 100 patients 13 years later and was finally published by his son in 1802, the year after his death. The book which appeared initially in Latin as "Commentaries," was later translated into English by his son and re-published.

These daily clinical notes in addition to describing angina also described and defined Heberden's notes of hypertrophic arthritis, differentiated small pox and chicken pox, and altogether marked their author as an apostle of common sense. The following is his classical description of angina:

"But there is a disorder of the breast marked with strong and peculiar symptoms, considerable for the kind of danger belonging to it, and not extremely rare which deserves to be mentioned more at length. The seat of it and sense of strangling and anxiety with which it is attended, may make it not improperly be called angina pectoris. Those who are afflicted with it are seized while they are walking (and especially if it be uphill and soon after eating) with a painful and most disagreeable sensation in the breast, which seems as if it would extinguish life, if it were to increase or to continue, but the moment they stand still, all this uneasiness vanishes. The termination of the angina pectoris is remarkable. For if no accident intervene, but the disease go on to its height, the patients all suddenly fall down and perish almost immediately."

But the clinical picture of angina and the pathological picture of heart disease remained a difficult and obscure relationship explored by two younger physicians, Edward Jenner (1749-1823) and Caleb Parry (1755-1822), who developed the essential notion that angina pectoris was cardiac in origin due to coronary artery disease. At the autopsy of Doctor John Hunter, who died of angina in 1793, Jenner found ossified coronary arteries as expected during his life.

Increasing medical activity was apparent throughout the 19th Century. The dominant heart conditions were first, cardiac enlargement emphasized by Jean Nicolas Corvisart (1755-1821), physician to Napoleon; then, cardiac irregularities and arrhythmias not otherwise defined immediately evident as an irregular pulse; valvular heart disease disclosed by the murmurs audible with the stethoscope of Laënnec; and finally, pericarditis.

The first half of the 19th Century was dominated by René Théophile Hyacinthe Laënnec (1781-1826), who in 1819 published his famous work **de l' Auscultation Médiate,** which described auscultation in depth as developed with the stethoscope invented by Laënnec. This book emphasized physical diagnosis in medicine, described in particular the findings related to the lungs, and introduced the words rales, bronchophony, and pectoriloquy. He had more trouble evaluating the heart than the lungs, attributed the first cardiac sound to the ventricles, and the second cardiac sound to the auricles, and was never able to untangle this error.

In mid-century the major medical figure was Rudolf Virchow (1821-1902), pathologist in Berlin, who in 1846 published his first work on "Thrombosis and Embolism" — the introduction of the whole new idea of embolism, and followed it up in the next decade with major works titled "Cellular Pathology" and "Tumors" — efforts supported by microscopic instrumentation and defining major problems of disease in cellular terms. It was also Virchow in 1847 who started the world's foremost medical Journal, **Archiv für Pathologische Anatomie, Physiologie und für Klinische Medizin.** It was this journal that carried the principles of cellular pathology — the greatest advance which scientific medicine had made up to that time — according to William Welch of Hopkins.

The end of the 19th Century was dominated by Louis Pasteur (1822-1895), who introduced the field of bacteriology into medicine and thereby revolutionized the etiology of illness and the ideas as well as the treatments of physicians.

Of significance in the 19th Century was the large medical development in physical diagnosis, pathological anatomy, and bacteriology that depended on new instruments — the microscope and stethoscope in particular. In the 20th Century the scientific

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Mary Edwards Walker, M.D. 1832-1919

By Seebert J. Goldowsky, M.D.

Some years ago, while searching through files of the **Newport** (R.I.) **Mercury**,* of the Civil War period, I came upon the following item dated November 7, 1863:

"Dr. Mary E. Walker, a patriotic lady, who has conferred innumerable blessings upon the sick and wounded in the army of the Potomac, was last Sunday subjected to considerable annoyance in Pittsburgh, on account of the singularity of her dress. She wore pants, military overcoat and cape, underneath which was a tunic reaching below the knees. Her head dress was a lady's hat, which had evidently been some time in use, while her hair hung neatly behind in an ordinary net. She had on a white turndown collar, and a necktie neatly adjusted. In this eccentric garb, it is not strange that she became an object of much curiosity; and among the thousand and one surmises as to who she was, it was rumored that she was a rebel spy! But as soon as it became known who she was, and that she had adopted this style of dress because it better suited the noble work in which she is engaged, she was treated with all the courtesy and respect which were due to a person of her character and mission.

"We cut the above (commented the **Mercury**) from one of our exchanges. Dr. Walker is well known to many of our citizens. Her treatment is in accordance with the feelings of the low classes of all communities for none but the lowest would ridicule her for wearing the bloomer costume, more than they would the one whose dress is permitted to trail half a yard upon the sidewalk. If the Empress Eugenie should appear once in public with the costume, England and America would consider it all right and all the ladies would wear britches."

My curiosity piqued by this odd story, I sought to learn more about this strange lady. A preliminary probe yielded the following: Mary Edwards Walker, a native of Oswego, New York, attended Syracuse Medical College, from which she graduated in 1855 at the age of 22. She entered the practice of medicine in Columbus, Ohio, later removing to Rome, New York, where she remained until the outbreak of the Civil War. She then applied for and received a commission as assistant surgeon with the rank of lieutenant, the first woman to serve as a medical officer in any army in time of war. During the war she was taken prisoner by the Confederate forces, but later was exchanged for a male officer of equal rank, again the first time for one of her sex. For her services in the army she received the Congressional Medal of Honor. She was a persistent advocate of dress reform for women, and in fact was granted special permission by Congress to

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*The **Newport Mercury** has been published continuously since 1758.

wear male attire. She campaigned for woman's suffrage and for equal rights. Although she practiced medicine for a number of years in Washington, D.C., she spent her declining years in Oswego, her home town, to which she had returned after an accidental fall on the Capitol steps, and died there in 1919 at the age of 87. It was stated in some accounts that she had never married.

EARLY LIFE

Closer examination revealed that her life, always colorful, had been surrounded by folklore, some of it a result of her own fantasies.

Mary Edwards Walker was born in Oswego, New York on November 26, 1832, the fifth daughter of Alvah and Vesta Whitcomb Walker, both natives of Massachusetts. She was a direct descendant in the eighth generation of Widow Walker, who had come to Plymouth Colony before 1643 and settled in Rehoboth, Massachusetts about 1644. Philip, the widow's son, built a fine home there in 1676, which still survives in an excellent state of preservation as the Deacon Walker House. Due to boundary adjustments it is now located in East Providence, Rhode Island. One of her father's maternal grandparents was a private in the Revolutionary Army. On the distaff side she was related to the poet James Whitcomb Riley and to Colonel Robert G. Ingersoll, the flamboyant agnostic orator. One suspects that some of her more unusual traits were inherited from her mother's connections.

Mary Walker was a product both of the times in which she lived and of her genetic endowment. While the first half of the nineteenth century was generally a period of ferment, upper New York State especially was a focus of restlessness and experimentation. The zealous Calvinist revivals of Charles Grandison Finney swept through this country in the 1830s, and followers of William Miller in 1843-44 anxiously awaited the Day of Judgment. Andrew Jackson Davis, a mere 18 years old, had discourse with the ghost of Swedenborg in a graveyard in Poughkeepsie. Reputedly capable of performing astonishing intellectual feats when in a trance, Davis had much to do with inspiring a groundswell of spiritualism. Joseph Smith, founder of the Church of Jesus Christ of Latter Day Saints, had his visions in the neighboring towns of

Fig. 1. Early sketch showing a version of her pantsuit.

Palmyra and Forsyth. The first woman's rights convention was held in Seneca Falls in 1848, where Mrs. Amelia Jenks Bloomer, the deputy postmaster, promoted her celebrated pants. The women of Oneida community, which conducted an early experiment in communal marriage and supported itself by the manufacture of silverware, also adopted a type of reform dress with a shortened skirt. The National Dress Reform Convention was held at Cortlandville, New York in 1858. Thus our heroine was exposed to a host of religious and cultural activities.

SCHOOL TEACHER

Mary received her early education in a school conducted by her father on the family farm. Although trained to be a physician, he devoted himself mostly to the school, which was the first free school in that part of the state. Both mother and daughter taught there for many years. Mary also attended Falley Seminary at Fulton, New York for two terms. Her mother, the daughter of a school teacher, originated the custom of

(Continued on next page)

Fig. 2. In field uniform. From a painting in the Medical Museum of the Armed Forces Institute of Pathology, Washington, D.C.

decorating schoolrooms with cut flowers. Mary early acquired from her father an ambition to study medicine, despite the prevailing prejudice against women participating in any profession except teaching. She amused herself by reading coroners' reports and medical books borrowed from their family doctor. At the age of 16 Mary moved to New York City, where for several years she taught school to earn money to pursue her career. She had been offered financial assistance on condition that she enter the mission field, but refused because it would limit her freedom. As a consequence her financial struggle continued for most of her life.

MEDICAL STUDENT

While women generally were excluded from medical school, Mary was welcomed to Syracuse Medical College in 1853. This was a small Eclectic school founded in 1849 or 1850. The Eclectics (with a large E) were one of a host of "irregular" medical cults spawned during the prolific nineteenth century and frowned upon by the august authorities of the new American Medical Association. Eclectic Medicine, or Botanic Medicine as it was also called, became a school of medical practice about 1840. Its theorists believed that America, a noble country, must certainly grow somewhere within its vast reaches plants suitable for the treatment of every disease known to exist within its borders. One of the faithful expressed it this way: "Must we go to Europe to import mineral poisons, — Must the wealth of the country be sent abroad to bring amongst us the instruments of death? Must we pay with the substance of our lives, for aching bones and ruined constitutions? No! never! The remedies are here; they are spread over the plains and the mountains in abundance, they surround every cottage and bloom round every cabin over the vast and tractless wilderness." The Eclectic school was far ahead of its times in an important aspect — it welcomed women and advocated coeducation in medicine.

Syracuse Medical College, not to be confused with Syracuse University, did not prosper. It gave up the ghost in February of 1855. At the end of its last term, two students were graduated with the degree of Doctor of Medicine. One was a young man named Albert E. Miller of Virgil, New York. The other, Mary Edwards Walker, was then in her 23rd year.

Following graduation Mary practiced briefly in Columbus, Ohio. On November 19, 1855 she married Albert Miller, her former classmate. With her husband she moved to Rome, New York, where they started in practice together. How successful she was is disputed, but the services of a lady doctor were probably not much in demand. That she was devoted to her profession is not in doubt. Her interest in women's rights and in dress reform, acquired while she was teaching school in New York, continued during the years of marriage and practice.

MARRIAGE

Her marriage was not a happy one. She refused to allow the word "obey" to be spoken in the ceremony or to relinquish her maiden name. She called herself Mary E. Miller-Walker. Her dress was a continuing cause of domestic strife. Mary bore a child, but it died shortly after birth. Although her practice was largely confined to women and children, she occasionally saw a male patient, to which her husband strenuously objected.

It is suggested too that Mary was not the only object of Albert's attentions. She attempted several times to obtain a divorce, but was frustrated by her husband's objections, although he left her in 1859. Because of inability to obtain a divorce in New York state, she moved to Delhi, Iowa in the summer of 1860. After a year's residence there, helped by friends and the more liberal divorce laws, she was eventually granted a divorce and resumed her maiden name. She was greatly humiliated when her husband later filed a countersuit in New York state. Her ardent views concerning rigid divorce laws were undoubtedly inspired by these experiences.

OUTBREAK OF WAR

With the outbreak of the Civil War, Mary eagerly sought to participate in the care of the sick and wounded. Her activities during the first years of the War are not easily identifiable, nor in fact are they a matter of official record. She appears initially to have served in a voluntary capacity and in one account was described as a "nurse" with the Union Army. In the fall of 1861 she made the first of several applications to the War Department for a commission as assistant surgeon. This unprecedented request from a female was quickly denied. She toured the various hospitals and eventually landed at the Indiana Hospital, which was located in the unfinished upper story of the Patent Office Building in Washington. Since conditions there were in a sad state, she went to work without an appointment, carrying out both medical and morale duties. After six weeks of this she resumed her wanderings, visited various other hospitals, traveled to the front, and once escorted wounded from a field hospital in Virginia to Washington. She made several trips to New York, on one occasion remaining long enough to annex another M.D. from a diploma mill called the Hygeio-Therapeutic College. Back in Washington she organized a Relief Organization to look after women who were stranded while seeking friends or relatives in the military and to care for unmarried or homeless girls whose virtue had been sullied by the troops. She was usually in financial difficulties, since she had only her own meager funds for support. Once she

Fig. 3. From a photograph in the National Archives, c. 1865.

pawned her watch to raise money. Mary later recalled an incident that had occurred in 1862 when she was with General Ambrose Burnside's army near Washington. While on rounds in an overcrowded hospital, she found several patients burning with fever. Unable to obtain bandages or towels for compresses, she consulted the surgeon in charge. He too had been unable to procure supplies and was too frustrated and exhausted to persist. Mary went to her tent, picked out several of her own nightgowns, tore them into strips, and demonstrated to the nurses and corpsmen how to apply them as moist compresses.

PRISONER

On July 16, 1864 the **Newport Mercury** reported: "Mrs. Dr. Walker writes thus from Castle Thunder, Richmond, Va.: 'I hope you are not grieving about me because I am a prisoner of war. I am living in a three story brick castle, with plenty to eat and a clean bed to sleep in. I have a room-mate, a young lady

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Fig. 4. From a photograph in the National Archives showing Mary Walker in her Army uniform, taken just after the Civil War, when she was 33 years old.

about 20 years of age, from near Corinth, Mississippi . . . . I am much happier than I might be in some relations of life, where I might be envied by other ladies. The officers are gentlemanly and kind, and it will not be long before I am exchanged.' "

On August 20 it was learned that "Mrs. Dr. Mary E. Walker, captured in Georgia upward of five months ago, has been released from Castle Thunder, and goes down in the flag of truce. She was exchanged as a Surgeon and has arrived at Old Point."

What were the events leading up to this episode? On January 26, 1864 Mary arrived at Chattanooga, carrying a letter from Assistant Surgeon General Robert C. Wood recommending her for an appointment in the local hospital. She requested assignment to the 52nd Ohio Volunteers, so that she might have an opportunity to cross through the enemy lines ostentibly to care for stricken civilians, but allegedly to secure information on enemy dispositions. Major General G. H. Thomas, Commanding Officer of the Department of Cumberland, approved of this scheme.

According to the Reverend Nixon B. Stewart, historian of the 52nd Ohio Volunteers, she did little or nothing for the sick of the regiment and was thoroughly disliked by the men, who suspected, and apparently with good reason, that she was a spy. In addition to her duties with the troops, and pursuant to her orders she responded to calls from stricken natives beyond the lines. During these early forays she traveled with an armed escort and carried two revolvers in her saddle bags. As she became more confident, she traveled alone and unarmed. During April of 1864 she was picked up and arrested as a spy. According to one version she was carrying a bundle of letters which she attempted to send through the lines by way of Confederate pickets. The actual story of the escapade and her true mission are conjectural. She was taken to Richmond under military escort and placed in Castle Thunder, since Libby Prison, where she would normally have been retained, was unsuitable for a female, having only one room for prisoners. She was eventually exchanged, arriving back in friendly hands on August 20.

CONTRACT SURGEON

A few days later, on August 23, General Thomas telegraphed a request to the War Department that she be paid as a contract physician from March 11, 1864 to August 23, 1864. This request was accompanied by a copy of Assistant Surgeon General Wood's letter recommending her appointment and by a copy of the order of Major General Dan McCook, assigning her to the 52nd Ohio Infantry. The War Department ruled that she had not received a contract as Acting Assistant Surgeon, but rather a nominal appointment merely to enable her to get through the lines to gain information from the enemy. Indorsements indicate, however, that, after further correspondence through official channels, the Secretary of War himself on August 25 ordered that she be paid as a contract physician. The records further show that she was again on duty under the same arrangement from September 22 to October 4, 1864. It is significant that she was designated "physician" rather than "sur-

geon," the latter a military rank. However, on October 5, 1864 she signed a contract as Acting Assistant Surgeon, United States Army. During December of that year she was known to have served as surgeon in the female prison at Louisville, Kentucky. The following April, as the war was coming to an end, she was transferred to a Refugee Home at Clarksville, Tennessee. Her contract was terminated on June 15, 1865 at her own request. A contract surgeon was not an official member of the armed forces, and rank was simulated. She was paid at the rate of $80 per month. Records in the War Department files indicate that she had never been formally commissioned in the Army.

CONTEMPORARY ACCOUNT

A communication from a "respectable source" in the **New York Medical Journal** of May 1867 was revealing:

Cincinnati Ohio.
January 20th, 1867

Editor of The New York Medical Journal:

I observe in the January number of your **Journal** a page or two devoted to the experiences of Dr. Mary Walker in London. The various newspapers throughout the country have, for the past year or two, contained notices of this person, and a great degree of confusion has arisen as to her real merits, her services in the army, and her position in the medical profession. As I have happened, in the way of official duty, to learn something from this woman herself, I beg to put your readers in possession of my information.

My first observation of Dr. Mary Walker was made at Lincoln General Hospital, Washington, to which she came, in some pretended inspectorial capacity, armed with a pass from Secretary Stanton. The particular function intrusted to Mary Walker seemed to be that of spy and informer; at all events, she pretended to have power to obtain redress of grievances, and industriously set about hearing and contriving them. At this period, she was dressed in that hybrid costume which has since become so notorious.

My next encounter with Miss Walker was at Chattanooga. She was sent out by the War Department, through Acting Surgeon General Barnes, to Assistant Surgeon-General Wood, at Louisville. Dr. Wood, it is to be presumed, under instructions from Washington, sent her forward with orders to report to Surgeon Perin, Medical Director of the Army of the Cumberland. She presented herself to Dr. Perin and demanded employment as a Medical Officer. He was not a little astonished at the apparition, and, I may add — I trust without damaging his reputation with the powers that be — indignant that the lives of sick and wounded men should be intrusted to such a medical monstrosity. Before assigning her to duty, which he resolved not to do, he ordered a medical board to examine into her qualifications, as a justification for his decision. I was a member of that Board. Dr. Walker presented herself for examination, with a little feminine tremor and confusion, and before settling down to the graver business of medical examination, tried to propitiate us and secure a favorable report, so that we might take it for granted she possessed the requisite knowledge. She betrayed such utter ignorance of any subject in the whole range of medical science, that we found it a difficult matter to conduct an examination. The Board unanimously reported that she had no more medical knowledge than any ordinary housewife, that she was, of course, entirely unfit for the position of medical officer, and that she might be made useful as a nurse in one of the hospitals.

During the examination, we learned various particulars of her history, which I forbear to mention. She had a diploma, she said — we did not see it — from a "hydropathic institution" at Geneva, N.Y. (rather an "eclectic institution" at Syracuse, N.Y., an excusable error on his part after a lapse of three years). She had never been, so far as we could learn, within the walls of a medical college or hospital, for the purpose of obtaining a medical education.

The spectacle was both ludicrous and sad. Her pretension, her ignorance, her sex, her unprotected situation, all appealed strongly to our sympathies, and we treated her with utmost delicacy and consideration. How

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little ground there was for our feelings of sympathy will appear in the sequel. In a day or two after the examination, she was assigned to a hospital as a nurse, but had not entered upon her duties, when an order came from Department Headquarters, sending her to the extreme front! We learned, in a few days, that she was riding about the outposts, and when riding alone, one day, she ventured too far, and was captured and forwarded to Richmond, being treated with considerable rigor, notwithstanding her sex and her claim to the privilege of a medical officer.

It appeared subsequently that this was the design. She was intended as a spy, and went forward to be captured. It was supposed that her sex and **profession** would procure her greater liberties and wider opportunities for observation than were at all possible to other prisoners. The medical staff of the army was made the blind for the execution of this profound piece of strategy by the War Office — another instance of the esteem in which medical officers were held by the Hon. Secretary of War.

Roberts Bartholow,
Late Assistant-Surgeon
(Captain) U.S.A.

During her quasi-military career Mary affected attire similar to that of the officers with whom she associated. Her uniform of Union blue, consisted of trousers with gold stripe, a blouse-like jacket with a loose collar, broad-brimmed black felt hat with the usual gold cord and, in the winter, a regulation army overcoat. She wore her hair in long curls and was described as "pretty."

PENSION

Shortly after the War she was reported to have received the Congressional Medal of Honor, an exaggeration of the facts. Because of her almost unique experiences during the conflict, Congress awarded a bronze medal, which she continued to wear for the rest of her life. The reverse of the medal carried the legend: "Presented by the Congress of the United States to Mary E. Walker, A.A. Surgeon, U.S. Army." The Board of Medal Awards, however, was obliged in February 1917 to remove her name from the official list, because no grounds for the award could be found in the War Department archives. Unfazed by this, she was never without the medal during the remaining years, wearing it on the lapel of her tunic or frock coat. She succeeded in 1874 in wangling a small government pension of $8.50 a month, later increased to $20.

At the end of the war she settled briefly in New York City, where she engaged in newspaper work with a New York City daily. She is said to have been one of the first woman reporters in America. Tiring of this activity, she returned to Washington and entered private practice.

TRAVEL

During most of her years Mary's prolific mind teemed with projects. In the fall of 1866 she made an extended tour of the British Isles and France with Doctor Susannah Way Dodds of St. Louis, visited hospitals and museums, and lectured. At a meeting of the Society for the Promotion of Social Science in Manchester, she read papers on capital punishment, woman's suffrage, dress reform, and the prevention of infanticide. She lectured in London alone more than 30 times. One of the high spots was a lecture at St. James' Hall in London on "The Experiences of a Female Physician in College, Private Practice and in the Federal Army." The reviews were less than enthusiastic. According to one English journal: "Her dress was a long dark cloth tunic, reaching nearly to the knees, fitting closely to the figure above and expanding below, open to a certain extent in front, so as to disclose an inner garment, which we dare not attempt to name, but which served the purpose of a waistcoat and carried a watch and chain disposed as is usual among men. Dark trousers ('pantelettes,' she called them) and boots like those ordinarily worn by the male sex completed the essentials of her costume. She had, besides, a little wreath of dark green leaves upon her hair, a turn-down collar and neckerchief, whilst shirt-wristbands peeped from her sleeves and partially concealed the white kid gloves upon her hands. She wore an order given her by the United States Government. She described her own costume as a 'physiological dress with moral bearings' . . . . We cannot say much for her lecture."

She was presented to Queen Victoria, but

even in the presence of that stalwart of propriety she appeared in a pantsuit, although an elegant one of black silk trimmed with black velvet. After a visit in the summer of 1867 to the great Paris Exposition, she returned home later that year.

PUBLICATIONS

During her lifetime she published two books expounding her views on a great variety of subjects. The first, published in 1871, was titled **Hit,** the meaning of which is totally obscure. Her style was vigorous, but florid. In the preface of **Hit** she quotes from a phrenological analysis of herself by S. R. Wells which appeared in the **Phrenological Journal** of New York City. Among her qualities he mentioned great activity and energy, good looks, kindness, constructiveness and inventiveness, missionary spirit, a religious disposition (though not narrow or sectarian), warm-heartedness, great tenacity of life, fondness for fun and music, and the ability to reason well. Her cranial bumps revealed more than met the eye of the uninitiated, but Mary found the analysis agreeable and accurate, as she accepted phrenology as a credible science.

On love and marriage she advocated that men and women enter the marriage contract as equal partners. The individuality of the female spouse must be carefully protected, including the privilege of keeping her maiden name. Divorce should be readily available to facilitate dissolution of intolerable marriages. Love cannot exist without respect, or respect without implicit confidence. She was eminently fair to the male partner: "Let men and women stand as equals. We believe in men's rights as well as women's, and if there are any advantages to be gained by the titles of marriage, let men share them as well as women."

She was against tobacco and rum. "Tobacco," she wrote, "poisons the happiness of domestic life." On alcohol: "The beauties of Total Abstinence are so plain . . . that it is really surprising that there should be any necessity for ever (writing) upon the subject." On woman's suffrage: "God has given to woman just as defined and important rights of individuality as He has to man; and any man-made laws that deprive her of any rights or privileges, that are enjoyed by himself, are usurpations of power." On labor reform: "Away in the future, the people of the day will charge the great land-owners, and stock-owners, and great everybodies, with selfishness unparalleled, when they read that many fathers never saw any of their children by daylight, except on Sunday, as they were all day at work in factories, mines, and railroads and that many husbands and fathers never saw their wives and children in the beautiful light of day, because they were so weary on Sundays . . . that they could not keep their own eyes open to look at them." On religion: "As there is something good in all Religious beliefs there should be quiet toleration towards all who represent the various forms or ceremonies that are connected with worship."

DRESS REFORM

Women's dress reform, with which she was preoccupied most of her life, is discussed in great detail. Scarcely a woman could be found old enough to marry who was not afflicted by some ailment produced by the constrictions of her clothing, especially that accursed laced corset. Even a horse, she proclaimed, would not be expected to tolerate the torture of an uncomfortable harness. She listed three basic principles of the American Dress Reform Movement: 1. perfect freedom of motion, 2. equal distribution of clothing, and 3. an arrangement requiring the least possible expenditure of energy in "carrying it about." Her specifications are explicit:

"The linen is made with high neck and loose waist, and whole drawers, and long sleeves with wristbands attached; thus making a complete undersuit in one garment. The drawers are folded over the ankles and the stockings arranged without elastic or other bands, or any troublesome or injurious arrangement, most of which impede the circulation and produce varicose veins, and weariness in walking.

"The pants are made like men's and are either buttoned to the waist of the undersuit or are arranged with the usual suspenders. The dress is made to hang free of the body, the waist and skirt of one piece like a sack-coat, and falling to the knees; thus preventing it being stepped upon while descending the stairs, or of becoming soiled in rainy

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days but principally because of a needed relief to women from its shortness. Thus, for general wear but three garments are required . . . .

"Woolen and canton flannel, and silk may be made the same as ordinary linen undersuits . . . when the season makes more clothing necessary."

SEX

Her second literary offering, which appeared in 1878, had a puzzling title: **Unmasked, or the Science of Immorality; to Gentlemen; By a Woman Physician and Surgeon.** She covered much of the same ground as in **Hit,** but in addition discussed at considerable length and with great frankness the problems of sex, which at that time were rarely mentioned outside of medical texts. She deplored the manner in which males learned about sex — usually by word of mouth from older boys to their younger playmates — information often "filled with the grossest errors." She discussed seduction and infidelity in marriage. Men assumed it was proper to have sexual relations with women outside of marriage, an immoral assumption which she deplored. Men who had sexual relations with the "vile" injured their nervous systems and transmitted the effects to their children, who were born sickly and subject to disease. Although the treponema was not discovered until 1905, she maintained in 1878 that syphilis could be transmitted to children and adults by kissing. She argued that men overemphasized the hymen as proof of virginity and cited cases of pregnant girls with intact hymen. Her views, though not always technically sound, were remarkably enlightened.

MALE ATTIRE

In later years she adopted attire which was more conventionally male, appearing in full evening dress or frock coat with starched shirt and collar and a high silk hat, a retreat from her earlier principles. Her hair, which she had once worn in curls, was cut in a boyish style. Because of her dress, she was the object of jokes and ribald humor. Women made faces at her and boys threw eggs. She was arrested a number of times for masquerading in men's clothing. She would extricate herself from the law by displaying a paper which she said certified that Congress had given her exclusive permission to wear men's clothing. However, the Congressional Record is silent on the matter. In later more tolerant years, as she walked the streets, she appeared to be a slender, long-haired, ungainly, dapper old man. On closer inspection she emerged as an old woman. She had been in her day a very attractive, possibly beautiful girl and a handsome woman.

WOMAN'S SUFFRAGE

Although she was an ardent advocate of woman's suffrage, she disliked the extreme behavior of the suffragettes. They in turn resented her as a peculiar aberration. In some respects her philosophy was unique and ingenious. She believed that the equality of women was an inherent and inalienable right. Since the Constitution was silent on the matter, women had the right, she maintained, to vote without the unwieldly device of a Constitutional amendment. At a woman's suffrage convention at Oswego in 1901 she was ejected from the premises for distributing circulars advising women not to contribute to the cause. She attacked the militant leader, Susan B. Anthony, claiming that women already had the right to vote and that an amendment, therefore, was superfluous. She once attempted unsuccessfully to cast a ballot in an election.

She was active in the cause as late as 1915. In December of that year she appeared before a Senate committee to present her views, but was refused permission to testify on the ground that she did not represent an organization. She took credit, probably with some justification, for the adoption by several states of woman's suffrage laws.

CAUSES

Her name is associated with a number of other causes and innovations. The peculiar election of United States senators, a reform which she had strongly advocated, was adopted during her lifetime. She probably invented the inside neck-band on men's shirts, which protected the skin from the collar button — now outmoded by the attached collar. She successfully advocated the adoption of the postal card receipt for registered mail. She suggested improved methods for handling third class mail and secured pas-

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Ninety

By A Man Who Has Reached It

By Harold G. Calder, M.D.

It's now 1971 — 90 years after my birth in 1881.

I once heard Doctor Paul Dudley White say that he thought the ideal age for a man was 90 years, terminated by a massive coronary occlusion while he still had his faculties. Most of my young friends ask me what my secret of longevity is, and I find it impossible to answer in a few words. So it has occurred to me that I might utilize some of my excessive spare time and write down the various elements in my life that seem to have some significance. There is no thought that what I write deserves publication, partly because one man's experience has little or no scientific value, but mainly because my career, although successful in some ways, is too lacking in distinction to make for general interest. Old men like to "dream dreams" and live in the past, and I suppose that is the main reason I'm doing this.

HEREDITY

Every living thing has a built-in inherited time-table. The rates of growth, age to maturity, and dissolution are genetically determined. We get our genes through our parents of course, but indirectly from our great-great-grandparents. In order to live to be 90, you must have a few old ones on both sides of your family. My great-grandfather was born in 1762 and was an officer in the Revolutionary Army. He was past 60 when his second wife gave birth to my grandmother. A great-grandfather had a house where Brown University dormitories are now, and his vegetable garden was his pride and joy. When he was nearly 90, the residents of the East Side could see him on any nice summer morning trundling a wheelbarrow along the streets to pick up horse manure for fertilizer. My maternal great-grandmother lived to her mid 90s. I would guess that I had about one chance in 20 of reaching 90. The young of today should have a better chance of surviving, because many of the causes of early death have been removed. Typhoid, smallpox, pneumonia, and other infections ended many lives which might have reached 90.

THE FIRST FIFTEEN YEARS

It can be proved with any animal that overfeeding in infancy, while it increases growth, shortens life to some extent. The same is true of the human animal. When I was born, and for years after, all babies were breast fed and were weaned only when the breast failed. Nothing but the breast or bottle was given until the baby was about one year old. Nowadays babies are fed cow's milk, cereal, meats, vegetables, and fruits starting at one to three months. I admit that babies seem to cry less, but I wonder how many will have heart attacks in their 30s and 40s.

I was blessed with two ideal parents, to

(Continued on next page)

HAROLD G. CALDER, M.D., *Consultant in Pediatrics, Rhode Island Hospital, Women and Infants Hospital.*

whom I was always devoted. Children brought up and controlled by love do better than if governed by discipline. I can't remember being "spanked." Overeating was the custom of the times. Nearly every successful man had a big paunch on which rested a heavy gold watch chain. We children had a heavy breakfast of meat, egg, or fish and fried (in deep fat) corn or rye cakes, a heavy dinner at noon, and a substantial supper with puddings, pies, and cake galore. My two brothers died with coronaries at 56 and 61 and my sister at 65.

Why did I survive? I think mainly because I was so much more physically active than they were. There were three of us who were always together, Ralph, Ned, and I. We were never quiet. We were inside only if in school or when it rained hard. The fire bells on each fire station rang out at 8:30 P.M., and that was the unofficial curfew. We all went home and quickly to bed. I remember, when I was 17, being invited to some kind of a party given by a girls' club called the "Busy Bees." They were spending the weekend at one of the members' homes. On the wall was a list of house rules. One was that all lights should be out and all in bed at 10 P.M. I couldn't see why any one should stay up after 9 P.M. My parents were never up after 10 P.M.

We played a lot of games that seem now to be out of fashion. "Shinny" played in the street with homemade polo sticks and a lump of coal for a puck was a favorite. "Slips," something like "hare and hounds" and involving a great deal of running, was another. In season we flew kites, pitched marbles, played "peggy," spun tops, played ball, and fished.

None of us had an "allowance." We had to earn our spending money. Cleaning cellars, chopping wood, shoveling snow, and picking fruit were common sources of pocket money. In the summer we sometimes made a kind of milk sherbet containing milk, water, lemon juice, and sugar, which we froze in an old household freezer and peddled at five cents a cup on the main street.

In the winter we skated and coasted or got rides on our sleds behind a grocer's delivery sled. After the first snow the wagons were put up in storage until spring. The streets were never plowed or cleaned. When I was nine we started spending the summers at Shawomet Beach on Narragansett Bay. I spent my time sailing, clamming, fishing, playing tennis and ball, rowing, and swimming. Clamming became my chief source of revenue, and I had a good business at five cents a quart. Ralph and I usually had a project to work on during the winter when there was nothing more important to do. One year we built a canvas-covered canoe, but it was never used as it proved to be too unstable. Another year we built the largest of all kites. It was taller than we were, and we obtained some heavy cord which we wound on an old broomstick. This, too, turned out badly as it pulled along the ground until the cord broke and our kite disappeared forever. We did learn a lesson from all this — that anticipation, planning, and accomplishment were more enjoyable than possession.

It may be that there is a connection between a very active boyhood and a long life, because my old chum Ralph Bangs recently died at age 90.

FIFTEEN TO THIRTY

It is convenient to divide life into periods of 15 years. The first are the growth years. During the second, one reaches his physical peak, his memory peak, and his virility peak. They should be devoted to education, training, and a choice of career. Almost all animals live about six times the time it requires to reach puberty. Therefore, the late bloomer should live longer than the boy who reaches puberty at 12 or 13. I belonged to that category and sang soprano with the girls all through high school. I graduated at 16 and my voice was just starting to change; I had never had a "date"; no girl had ever tempted me or wanted to. When I entered Brown in 1898, I had grown to 5'6" and weighed 125 pounds. This slow development had the advantage of making me put all my energy into study with no outside distractions. College was then a great privilege, not a near necessity. About half of us were working part of the time, and you really appreciate more what you have to earn. I taught night-school, read gas meters, and cared for a summer casino. There was no spare time for foolishness.

My plans for the future were mixed and undecided, but I always had a leaning toward medicine. However, after graduation I started to work as a clerk in a bank. I remember talking seriously to a friend one morning, and he advised me to do what I had planned, to study medicine. My parents were agreeable. Harvard accepted me without any doubts because of my good scholastic record, but in those days rarely was a qualified student rejected. Then again I found a perfect roommate for my first life away from my family. Mel Otis was a perfect man in every way. All my life I have been fortunate in my friends. If I was ever tempted in the least to depart from the straight and narrow someone always held me back. Our characters are fairly well formed at the age of five. After that your companions have more than anything else to do with your development. I am grateful to all my friends past and present; any success I have had and my way of life itself are partly due to their influence.

A happy life is apt to be a long one. It is important to decide by 20 what your career is to be. It is much easier to work toward a definite goal. Without this aim, a man is apt to become a "drifter," insecure, emotionally unstable, liable to bad habits, and never happy. This type of young man is likely to be the drug addict, the alcoholic, the criminal, types which seem to be getting more common. It is quite likely that this increase is more apparent than real, because of the excessive publicity they are receiving. I cannot stress too firmly that the possession of a definite aim is essential to a long happy life. For one thing, it encourages hard work. Most of the troubles of the young men from 15 to 23 are due to bad companions, boredom, and idleness. The drifter is doomed in our competitive society.

THIRTY TO FORTY-FIVE

These are the creative years. If you don't accomplish something, then you are not apt to do so in late life. Our memorizing ability reaches its peak at 20, but our brain power gets to peak at 30 and continues until 45 without lessening. There is danger in too great a success with a risk of too much night life, overeating and overdrinking, and temptation by predator females. It is just as well to live simply, get enough rest, avoid too much tension. If you steer clear of the "fast" crowd, you will live longer and be a better father. Happiness, which we all pursue, is never a matter of sensual pleasures, but a state of the Soul. You should be married during your 20s. Your choice of wife means so much to your happiness and health that I shall insert next some ideas about sex in general.

SEX

Man is an animal and has all the inherited characteristics of animals. Our emotional equipment is born in us, but its control depends upon environment, training, individual effort, and desire. The reproductive power of the male is enormous. In a week a virile man can produce some three billion sperm cells, each one of which has independent power of motion and the ability to fertilize an ovum and start a new human being. That represents a lot of energy. I know of no data that prove that sexual excesses shorten life, but I believe it may be true. If a man is aiming at 90, he should restrict his sexual experiences. In no other function does habit play as great a part. The young man will do well if he expends his energy in exercise, sports, and study. There is no evidence that sexual activity is at all necessary to health; quite the contrary. The old-fashioned moral code is still the best basis for a long and happy life. Pick out a girl who should make a good helpmate and mother on the basis of character and intelligence. She should look beautiful and appeal physically, but beauty is a poor basis for marriage.

You will probably be a little in love with a dozen girls before you find one you really want to marry. Don't get too involved before that, or you may find yourself committed against your best judgment. In my college days a man who gave too much attention to girls was called a "fusser" and was looked down upon. All my friends who lived long lives were one-woman men.

The first few weeks after marriage resemble the experience of a boy let loose in a candy shop and like that quickly bring surfeit. Settling down to a quiet reasonable sex life is the best guarantee of a good life. Promiscuity before or after marriage can only harm the offender. The new sexual liberation

(Continued on next page)

and scrapping of the old ethical code can bring only grief in the long run. A life devoted to the pursuit of sensual pleasure will be a short one and should not appeal to a man seeking the rewards and serenity of old age.

A wife can make or break a man. We all know that; examples are common enough. Much of my success in life and my long survival are due to the wife I enjoyed. I picked out a student nurse from New Brunswick, first because she was pretty and jolly — but I married her because she was intelligent, courageous, and good-natured. She had the sense of humor that makes so much for mental health. Nothing adds zest to life, and stimulates your whole system like a good hearty laugh. She picked out an old farm in the country for our summer home, and for about 40 years I slept on the sleeping porch, worked in the yard, and breathed the good, unpolluted air. I am sure that these lively summers gave me added strength and vitality. The hours we spent picking blueberries I shall never forget. Not only was that good exercise, but when you get back to nature all your troubles and tensions melt away. We were together as one being for 45 years. Occasionally she returns in a dream, even now, 16 years later. Widowhood is rather peaceful, but very lonely.

FORTY-FIVE TO SIXTY

The years 45 to 60 are the executive years. More responsibility is loaded on your shoulders. You are chief of staff, executive vice president, cashier, manager, chairman of important committees. If you want to come through them safely you must learn how to meet pressure without worry and how to function without tensions. Learn to relax, don't get involved in too much social activity, and don't attempt more than you should. Many executives in this age group suffer from peptic ulcers, high blood pressure, coronary disease. It is not the hard work that harms as much as the tension, and this is frequently aggravated by cigarettes, caffein, and alcohol. Tranquilizers are rarely indicated, though often prescribed. They don't increase your chances of reaching 90, but in all probability will lessen them.

FOOD

The association between food and age has become well known. Excessive eating probably shortens life more than any one thing. That is the penalty of living in a country of abundance. Like any animal, man cannot refuse to stuff himself when he can find it in front of him. It is not so much a matter of the amount of food as the amount of food in relation to the amount of physical work or exercise. Farmers, mailmen, and the like rarely get coronary disease early in life. The Irishmen in Boston who ate more and worked less had much more coronary disease than did their brothers and cousins in Ireland.

When I was graduating from medical school, the late Doctor Timothy Leary, a Boston pathologist, was experimenting with rabbits to which he fed an excess of cholesterol. He was able to produce the same atherosclerosis that he found in the human aorta. Of my four grandparents, seven aunts and uncles, and my parents, all but two had cardiovascular disease. I decided when I started practice to do something about it. It has been 60 years since I have eaten eggs as such — 40 years since I have eaten butter on my food. I gained 20 pounds when I first was married, but gradually lost it and at 90 weigh about what I did at 30.

EXERCISE

I mentioned the importance of my physical activity in boyhood. That continued. I played tennis regularly until I was 45, cut my grass, shovelled my snow, and walked a lot. In my first three years of practice I had no car but walked or rode the streetcars — rain or shine — perhaps eight to 10 miles a day.

Another form of exercise which I think has great tonic value is swimming in the salt water. I still continue that.

I must also mention and give much credit to the Y.M.C.A. When I was a small, almost puny youngster, my mother tried to get me to go to dancing school. I refused. The girls my age were much taller and larger and had absolutely no use for a shrimp like me nor I for adults like them. We compromised on the Y. My uncle was the secretary in charge, and I worked out with great energy twice a week for three years. It built me up to reasonable stature and gave me plenty of muscle.

Sailing was another sport. My chum had a large sloop, and I acted as "crew" doing all the heaviest work, pulling in anchors,

rowing the tender, pulling up the sails, and furling the main-sheet.

TOBACCO

Used for several hundred years, it did not seem to be very harmful until cigarettes and inhaling the smoke became popular after World War I. Used in pipes, cigars, snuff, and chewing tobacco, it didn't seem to shorten life. Now that the dangers of respiratory disease, cancer, and coronary disease are known, there is every reason for a young person not to start using it.

It is surely an acquired habit. We were taught we must not use tobacco until we were 21 and never cigarettes, which were called "coffin nails." I started smoking in medical school because my roommate used a pipe, and I smoked until I had my coronary occlusion at age 67. It was easy to stop then, and the fact that I did may have improved my health. I certainly have never missed it although even now I occasionally smoke a pipe in my dreams.

MUSIC

Anyone who has been fortunate enough to have inherited a love of music and a musical ear is indeed lucky.

It may be better not to have too great a talent. You might be induced to make music your whole career, and I think it is more beneficial to health and fun as an avocation and hobby.

I sang first in public at about 10 when I was the Chinese brownie in a production of Palmer Coxe's Brownies, which were popular around 1890. I remember my solo was about "washee, washee, all day longee." At 13 I joined a boy choir and had my first and only voice training. We had rehearsals Tuesday afternoon and Friday evening and two services on Sunday, for which our salary was 25 cents. But the teaching of the musical director and organist, Mr. Arnold, was worth very much more. We learned how to produce head-tones, to read music, and to sing on key.

My voice changed so late and my other activities took so much time that I sang relatively little in college. However, I recall that I was the soloist at an evening school graduation exercise. We had an informal male quartet in our neighborhood in which I sang first tenor. And in medical school I was a member of a class glee club of eight men. In my hospital days there was always singing, and I was always in the midst of it.

In 1911 Berrick Schloss enlisted my help in starting the University Glee Club, and I still sing with them.

It may well be that singing has not lengthened my life, but it certainly made it happier and it certainly makes me feel younger. Perhaps the greatest advantage from it has been the opportunity to have young friends. Old age is of course a matter of years, but the man's reaction to it and the effect on his appearance and health depend on his keeping active and occupied with enjoyable pursuits.

Classical records and modern players furnish music whenever you want it, and with them life is never boring or stale.

MY DEBT TO THE MEDICAL PROFESSION

The medical profession certainly deserves a great deal of credit for my long life. Eight times my life has been in danger of premature termination.

When I was 19, a companion and I went fishing about 6 o'clock one September morning, and we were caught in the tail-end of the Galveston Hurricane (1900). We capsized in the midst of the wildest waves I have seen in Narragansett Bay. We finally swam ashore, thoroughly tired and chilled. That night a typical lobar pneumonia began. I had a crisis in about a week, but was about two months regaining my strength. A local doctor took care of me. I remember he did not use a stethoscope, but listened with his ear against my chest. My mother deserves most of the credit for my recovery.

At the close of my senior year in medical school, I was performing an autopsy under the supervision of Doctor George B. Magrath and accidentally nicked my finger. In spite of my efforts at sterilizing the wound, which was quite slight, the following morning found my arm demonstrating a beautiful case of streptococcal lymphangitis. I was admitted to the Massachusetts General Hospital and showed the surgeon how to apply a Gamgee dressing, which was a method of putting pressure on the vessels. Because of this and good nursing I soon was able to return home.

The same thing happened in the Rhode Island Hospital. I was trying to make a leech take hold of a colleague's acute mastoid and

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Editorials

HELEN

When I opened my office in 1936 Helen was already on the scene. She was there when I went to war, and she was there when I came back. When I closed my office in 1972 to become a bureaucrat, Helen was still there. Helen is there even now, wearing a different bonnet perhaps — but alas! not for long. In the early years I made regular trips to the library to borrow recent journals, because in the depression days I was obliged to forego the luxury of subscriptions. Grace Dickerman never once failed to ask me whether the current issue was on the shelves, because a house rule forbade the circulation of the most recent issue of a journal. She seemed forbidding in those days, but I know that her stern exterior was a cover for painful shyness.

When I began writing modest papers, Helen emerged from the woodwork to help me with references. Later, as my interest turned to local medical history under the prodding of the colorful Peter Pineo Chase, my distinguished editorial predecessor (once removed), Helen's presence became a dominant part of my endeavors. Whether I was pursuing Usher Parsons or an obscure Civil War hospital in Portsmouth, Rhode Island (which had no fewer than 2,400 beds!), Helen was my strong right arm. She understood well my goals for the **Journal** and helped us maintain its standards. She and her assistants have long checked for both accuracy and format all references in all published papers. Her encyclopedic knowledge of the riches of our Library and her special facility in tapping other resources have been a priceless asset to our community, to the local profession, to the Society, to the **Journal,** and to me personally.

An occasional flash of impatience or irascibility when she was harassed by the volume of work could never fool one. Thinly disguised was her unfailing warmth, helpfulness, courtesy, and charm. Helen has been a treasure, and in a sense her special qualities and scholarship are irreplaceable. Her long-time presence in the Library and especially the years when she, first with David and then alone, literally made it her home, have left a part of her spirit in the bricks and mortar. I shall feel a very personal loss.

You must come back, Helen, as you have promised to do from time to time, to renew your spirit in the Library and to touch your native soil.

SEEBERT J. GOLDOWSKY, M.D.

AN APPRECIATION

I have come to know Helen DeJong well despite my having worked with her slightly less than three years. Her boundless energy and ready wit helped lighten the working day for all of us, and this charming and cheerful lady was always available to give anyone the benefit of her vast storehouse of knowledge on past history of the Rhode Island Medical Society. The Society will not be the same without Helen DeJong. We are grateful for what she has given us and wish her an abundance of happiness in her well earned retirement.

TIM NORBECK

Guest Editorial

SHARDS AND REMNANTS

The most interesting parts of a miscellaneous medical library are its oldest and its newest portions. Between these is a long dreary interval, filled up by books not old enough to be curious or even rare, and not new enough to represent the existing state of knowledge . . . Something may be gained from these obsolete and utterly neglected writers. They were not all fools because they had not the wisdom which comes with the knowledge of a later day. There were, and are always, men of common sense — good, strong, coarse common sense — in the medical profession. Sydenham was one of these. I believe I have hardly ever delivered a medical address in which I have not referred to the "roast chicken and pint of canary" which he prescribed for a patient affected with what a Dublin physician might probably call "male hysteria" . . .

No doubt there are many rusty old volumes in this collection which will, rarely, if ever, be taken from the shelves except to be spanked and dusted. Do not grudge them the room they take up . . .

Do not look with contempt . . . on such of your old books as seem to be mere treasuries of unwisdom. The debris of broken systems and explored dogmas form a great mound . . . of the shards and remnants of old vessels which once held human beliefs. If you take the trouble to climb to the top of it you will widen your horizon; and in these days of specialized knowledge, your horizon is not likely to be any too wide . . .

New remedies keep coming up in the journals, like new shoots in asparagus beds . . .

Since medicine has run into specialties, as it did thousands of years ago in Egypt, there must be forming great numbers of private libraries, more or less complete on their particular subjects. We may hope that in time all the important branches of medical science and practice will be fully represented on our shelves. But the enormous amount of material already accumulated in many special departments would be of comparatively little use without indexes to point out the way to find what is wanted . . .

These books were very dear to me as they stood upon my shelves. A twig from some one of my nerves . . . ran to every one of them . . . They marked the progress of my studies, and stood before me as the stepping-stones of my professional life . . . If any of them can be to others what many of them have been to me, I am glad to part with them, even though it costs me a little heartache to take leave of such old and beloved companions.

OLIVER WENDELL HOLMES, M.D.

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*Extracted from address before The Boston Medical Library Association, delivered on January 29, 1889 at the formal presentation of Doctor Holmes' private medical library to the Association. **Boston Med and Surg Journ** 120:129, 7 Feb 1889

LEGENDS FOR PHOTOS ON PAGE 93
(top right to bottom left)

Doctor Irving A. Beck presented to the Library, in the name of Helen DeJong, Doctor James H. Davenport's personal, illustrated copy of LITERARY DOCTORS OF MEDICINE.

Doctor Stephen J. Hoye, President of the Society, presented Mrs. DeJong with a commemorative plaque which will hang in the Library.

Mrs. DeJong received a silver bowl from Doctor Thomas Perry, Jr. on behalf of the Library Committee.

HELEN ELIZABETH DeJONG AND THE RHODE ISLAND MEDICAL LIBRARY

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mated that as many science papers had been published since 1950 as were published in all the centuries before, and he maintained that "a new communication concerning chemistry is published somewhere in the world every minute; a report on physics every three minutes; and a report on medicine, biology and electronics every five minutes."

A RARE PERSON

Helen DeJong's liberal arts education prepared her well for her many and varied tasks. Her ability to answer promptly an inquiry about a disease symptom, a new treatment or surgical technique, the latest development in medicine in any specialty, or the most authoritative writers in any given field of medicine indicate that she has heeded well the advice of Francis Bacon that one should "read not to contradict and confute; but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested — that is, some books are to be read only in parts, others to be read, but not curiously, and some few to be read wholly and with diligence and attention."

She has not confined her knowledge to matters of medicine alone. Her diverse and liberal knowledge of drama, music, and the arts, and her experiences from world-wide travel had enabled her to refer what she learns to what she already knows, with a keen awareness of the relationships involved. As Newman has noted, there are persons who embrace in their minds a vast multitude of ideas, albeit with little sensibility about their true relations towards each other; but "if they are nothing more than well-read men, or men of information, they have not what specially deserves the name of culture of mind, or fulfills the type of Liberal Education." Helen DeJong well warrants recognition as being a liberally educated person of culture.

Although she retires from her role as our Librarian, Helen DeJong will never quite leave the Rhode Island Medical Library, for her personal endowment of that institution, and her added services to the Society and the Providence Medical Association, will endure forever. It is uniquely fitting that the rare book room at the library be named in honor of this distinguished librarian whose efforts for medical education in Rhode Island mark her indeed as an extremely "rare person."

COMMUNITY RESOURCE AND SERVICE

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men or any other practitioners. On the other hand, William Coleman was a reputable physician of the time, a member of the Royal College of Physicians, and author of **A Physico Medical Essay Concerning the Late Frequency of Apoplexies,** 1689, yet is considered so theoretical that his writings have little interest today.

Special mention must be made of Thomas Winston, **The Compleat Anatomist. Being a Compendious Treatise of the Anatomy or Dissection of the Body of Man. Containing a Description of the Parts Thereof Methodically Digested.** London, Printed for William Jemson, 1664. This title is given in full because it does not appear in Wing's listing of 17th century English books, the British Museum, the **Index-Catalogue,** the New York Academy of Medicine, or the Cushing Library at Yale. In Munk's **Roll of the Royal College of Physicians,** there is the statement that his anatomical lectures, published several years after his death in 1659, were considered the most comprehensive of his time and included Harvey's discoveries. Norman Moore in the **Dictionary of National Biography,** speaks highly of Winston, yet asserts that mention of Harvey's contributions was not made by him. This is apparently a second edition of his lectures with a different title.

THE LIGHTER SIDE

For those who wish to pursue a lighter side of medicine, the richness of the Davenport collection is known far outside the confines of this organization. Non-medical works by physicians are amazing in scope, in quality, indeed in greatness, and varied sufficiently to appeal to all tastes. And there are other, lighter moments to be had from the Library's wonders, particularly that remarkably well illustrated folio of the work of Lycosthenes, **Prodigiorum Ac Ostentorum**

(Continued on page 136)

Big Balanced Rock, Chiricahua Mountains, Arizona (approx. 1,000 tons)

- Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
- Can relieve nausea and vomiting often associated with vertigo.*
- Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
- Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
- Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences – National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F) and 25 mg. of hydrochlorothiazide.

MAKES SENSE

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

FOR LONG-TERM CONTROL OF HYPERTENSION*

Serum K^+ and BUN should be checked periodically. (See Warnings Section.)

Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Sincerely,

Russell P. Hager M.D.

RUSSELL P. HAGER, Ph.D., M.D.
Medicol Director

COMMUNITY RESOURCE AND SERVICE

(Continued from page 134)

Chronicon, 1557, with prodigies, monsters to please the palate of those who enjoy horror movies today.

These then are the highlights and treasures brought together over many years through the interest of many members, through their pride and confidence in this association. A library is so much more valuable as the sum of all its parts, rather than an accumulation of expensive items. In this Library there are also the important holdings of the state medical journals, often difficult to find, and necessary to any historian of the American scene, as well as of contemporary interest. The current holdings, the available services are familiar to members, but all of Rhode Island is fortunate to be indebted to the Society for providing a resource for the physicians of the state, for the laymen who need medical information, paramedicals, social workers, lawyers, students whose school libraries are insufficient for their needs. Doctor Amos Throop, Doctor Fiske, and so many more would look with pride upon the development through the years of the Rhode Island Medical Society and its Library.

In no small measure Helen DeJong is responsible for the health and excellence of the library today, for she valiantly maintained services with a minimal staff through perilous years when a number of libraries of medical societies went out of existence, a great loss, for rarely can a medical school library, unless state supported, offer community services traditionally supplied by medical societies. In addition Helen's appreciation of the library as an intellectual resource was a valuable asset for continuing support of the historical collection. Readers and donors were always assured of that "friendly reception."

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ENERGY IS ETERNAL DELIGHT

(Continued from page 104)

weaknesses and strengths. There's nothing like a tough question you can't answer to send you back to the books.

THE FUTURE FOR MEDICAL LIBRARIES

I don't think anyone can predict the future of the health science libraries at present. The situation keeps changing. We are back to a no-funds period after several years of living high on the hog. Once we were short of professional librarians; now there are too many for the available jobs. The higher salaries for librarians are well deserved, but many smaller institutions can't afford them. We've had a regional system in Rhode Island since 1953 when a group of us started working together on mutual problems and produced the first edition of our Union List of Serials received currently by local medical libraries. Our seventh edition was published in 1975 and is now computerized at Brown.

We had a paid typist for the last edition — a departure from the past when all of the work was done as a labor of love! Requests to Brown (our area Library) and from there to the Countway Library in Boston (our regional source) are now on a quota basis with free service limited to a definite number for each library. Information retrieval, generally, however, is expensive whatever the form, and all science libraries from the National Library of Medicine on down are suffering from financial troubles. It appears as though the local librarians may have to work harder and with even closer ties if we are to meet the demand for service.

MY PLANS FOR RETIREMENT

I am not changing my life style completely, nor am I giving up my interest in my work. I am simply channelling my activities. When you are young, the whole wide world is yours to discover, and you can dissipate your strength; at my age you realize that you need to concentrate on the most important

things if you're to accomplish anything. For years I have looked at the rare book collection and yearned to do a proper job of cataloguing (not to mention polishing the calf bindings of the books!); and the haphazard collection of letters, news clippings, photographs, and ephemera that fills the storeroom has haunted me. I hope to spend a whole month just putting this archival material in better shape.

My family is very small, and my sister wants me to come to Tallahassee in Florida to live with her and her family. There is plenty of room and plenty to do on a six-acre horse farm — but I shall have time to work on some of the projects which I shall take with me. I can, for instance, finish cataloguing the original Davenport Collection and the rare books from main entry cards. A set of the **Transactions of the Rhode Island Medical Society** will provide information for another bit of research. I believe that I want a chance to see if all of the input into my personal computer during the last 45 years is worth some output. And, of course, I shall keep open my option of coming back to Providence when I need to.

CONCLUSION

I've been asked where I got my energy, and I think I found the answer in **Time Magazine** a few weeks ago. "Energy is eternal delight" — a quotation from Blake used in a story. Call it "delight," or call it enthusiasm, or call it total involvement — it is the spark that fires a happy career, a full life, which mine has been and, I hope, will continue to be.

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HOW'S THAT AGAIN DEPARTMENT?

In a suit against a hospital and its medical director, two men who alleged that they were attacked by the medical director were denied recovery of damages by an Illinois jury.

The men, both 25 years old, went to the hospital emergency room because one of them thought he had hepatitis. They were reprimanded for smoking near oxygen and claimed that the medical director, who was 77 years old, beat them and dragged them down the hall. One man allegedly had a cut below the eye and the other, a broken nose.

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SURGERY IN RHODE ISLAND AFTER THE AMERICAN REVOLUTION

(Continued from page 108)

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ONE SENTENCE ESSAY

Sevareid's Law

The chief cause of problems is solutions. . . . Eric Sevareid, television news commentator.

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THE DAVENPORT COLLECTION: AN ADDENDUM

(Continued from page 110)

This catalogue has now been presented to the Society, inscribed to indicate that it is a token of appreciation of the special nurture which the Davenport Collection received during the stewardship of Mrs. David DeJong.

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FRANK TAYLOR FULTON, M.D. 1867-1961

(Continued from page 117)

developments in medicine have dominated the medical scene, and elaborate instrumentation in every medical area has broken the field down into areas of specialization. One of the foremost specialties has been cardiology, and the two chief instruments initially were the electrocardiograph and the x-ray, which served to illuminate an organ concealed from sight and palpation.

It was these two instruments which Frank Fulton introduced to Rhode Island Hospital, that supported his emphasis on cardiology. And it was this instrumentation that reinforced and supported the Heart Station at Rhode Island Hospital.

With the advent of the 20th Century and during the lifetime of Frank Fulton, the progressive development of cardiology as a major specialty took on increased impetus. In 1906 in Edinburgh Doctors Arthur R. Cushny and Charles W. Edmunds initially described atrial fibrillation, which was then in 1909 defined with precision by Doctor Thomas Lewis by means of his cardiograph. In 1911 W. A. Jolly and W. T. Ritchie described the clinical pattern of atrial flutter, later introduced by Frank Fulton to America. These early descriptions of arrhythmias were very soon followed by Ernest H. Starling's great theoretical statement of the law of the heart in 1914: "that within physiological limits a larger diastolic cardiac volume results in a greater energy of contraction and a greater amount of chemical change at each contraction." Then in 1920 Thomas Lewis invoked the theory of the circus movement

in the heart muscle as backdrop to fibrillation. In the '40s penicillin came to the fore as therapy for streptococcal pharyngitis and the reduction of rheumatic fever and heart disease, and the reduction of syphilitic heart disease. In 1953 André Cournand invented the technique of cardiac catheterization, that preceded the great emphasis on cardiac surgery for congenital heart disease and valvular heart disease. At this time it became apparent that more than half of all cases of congenital heart disease involved the three operative conditions atrial septal defect, ventricular septal defect, and patent ductus arteriosus. Other technical improvements included angiocardiography, vectorcardiography, and echocardiography — all part of the advances in cardiology. And simultaneously a great development in drugs led to scientific use of digitalis and the introduction of diuretics, anti-arrhythmics, and other specialized medications.

A major development of specialized laboratories and coronary care units in hospitals promoted patient care throughout the country and a series of major medical journals promoted the rapid diffusion of cardiac knowledge.

In 1955 Frank Fulton in his 88th year wrote a book, **The Story of the Heart Station,** in which he described his early adventures with cardiology in England and the United States. Here he described and discussed the electrocardiograph and its introduction to Rhode Island at the Rhode Island Hospital in March 1915. That initial machine was a large and bulky instrument that required open water tanks for electrode placement of hands and feet. Later, long wires from ward to ward connected patients to the machine. He noted then that the electrocardiograph did not really become popular until portable machines became available in the 1930s, and doctors generally could use the device to evaluate their patients' heart problems. With this development of machinery electrocardiography steadily enlarged and illuminated the changes of the myocardial muscle and revealed the enormous importance of coronary artery disease, that has been shown to become the most important disease of the West-

(Continued on next page)

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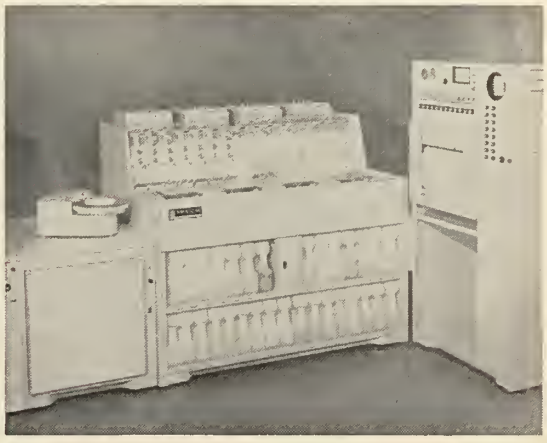

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ern World in the last half of the 20th Century.

Frank Taylor Fulton died in 1961 at the age of 93. During his life an enormous change in medicine occurred. His interest in the scientific and laboratory developments of medicine placed him in the forefront of these developments.

His contributions in tuberculosis, in meningitis, in syphilis, and in cardiology generally have had a large and benevolent influence on Rhode Island that is probably not appreciated, but should be. He was a modest man, but his contributions to his society have been very large. They merit wider recognition.

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PRESIDENT'S PAGE

(Continued from page 84)

aspect of health care costs! We have to convince the General Assembly that they can improve the health care of the people of Rhode Island by passing this legislative reform intact!! TO ARMS! We feel we've done our part! NOW IT'S YOUR TURN!!

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MARY EDWARDS WALKER, M.D. 1832-1919

(Continued from page 126)

sage of a law permitting senders to place return addresses on wrappers. This simple procedure, now taken for granted, permitted the retrieval of hordes of items formerly hopelessly lost.

Mary also dabbled in spiritualist matters and belonged to several spiritualist clubs. In 1897 she attempted to found at her Oswego farm a colony exclusively for females called "Adamless Eve." Even roosters and turkey gobblers would be banned. The project never got off the ground.

Her lectures and books were never very popular, and it is doubtful that her medical practice was ever sufficient to support her. For many years there was pending either in the House or Senate legislation to obtain relief for her. Her pension was one result of this pressure. But Mary was convinced that the Government had never adequately recognized her services. She was once appointed to a clerkship in the Treasury Department, but the appointment was never confirmed by the Secretary, because other women in the section objected to her dress. Her salary claim for the time she served was eventually settled for $900. She also worked for several months as a clerk in the Interior Department. To eke out her meager resources she lectured intermittently over a period of 10 years at a dime museum in New York City. Throughout her life she agitated for her pet projects.

DECLINING YEARS

Although Mary Walker achieved some degree of recognition, her later years, despite untiring activity almost to the end, were saddened by frustration and financial adversity. A project to which she had long been devoted was the conversion of her family home at Brinker's Hill in Oswego into a cottage sanitorium for tubercular patients. She had returned there from time to time to look after the property following her brother's death in 1890. This scheme, which never attracted financial support, was eventually abandoned. While in Washington she lived in an unpretentious two-story house on L Street near the corner of Tenth. From there she made frequent forays to the Capitol to

appear before legislative hearings. With the passing of years and increasing poverty, she metamorphosed from a dapper and striking personage in tails, diamond studs, high hat, and Inverness cape to a rather pathetic little old lady in noticeably shabby men's clothes.

Mary Walker was never a member of an established medical society either in Washington, D.C. or in New York. She had set much store on membership in the Daughters of the American Revolution. Despite the fact that she claimed to have had four ancestors on the Mayflower, she had been repeatedly turned down because of her unorthodox dress. When membership was finally granted in 1913 when she was 80 years old, it was by a chapter in far-off St. Louis.

On a visit to the Capitol in 1917 she fell on the Capitol steps and fractured her hip. This was the beginning of a lingering and prolonged illness. In the spring of 1918 she returned to her home in Oswego, considerably weakened in health, but still asserting her independence. For long she declined the help of neighbors in looking after her home, but eventually allowed herself to be taken to the United States General Hospital at Fort Ontario, New York. She remained there for several weeks, and then returned home seemingly improved. Not long thereafter, on February 21, 1919, in her 87th year, the end came mercifully to her turbulent life. She was buried in a country cemetery not far from her ancestral home.

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(Continued on next page)

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MEDICAL BUREAU
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"An examination of the records of the War Department indicates that Mary Edwards Walker entered into contract October 5, 1864, as acting assistant surgeon, United States Army, and that her contract was terminated at her own request on June 15, 1865. The records also indicate that she was on duty as a contract physician from March 11, 1864 to August 23, 1864 and from September 22, 1864 to October 4, 1864.

"While no other record of her active service has been found, there is on file a letter of Mary E. Walker of Atlanta, Georgia, dated September 14, 1864, in which she states that she has been serving with the Army for the last three years in various capacities in the treatment of wounded and sick soldiers, female persons, etc. In this letter she requested an appointment as a medical officer in the Army.

"According to the records, Major General G. H. Thomas, Commanding the Department of Cumberland, reported by telegraph on August 20, 1864, that Mary E. Walker went to Chattanooga the previous winter and had a letter from Assistant Surgeon General Wood recommending her for appointment in the hospital. She asked to be sent to the 52nd Ohio Volunteers so that she might have a chance to get through the lines and get information of the enemy. General Thomas consented.

"On August 23, 1864, Major General Thomas forwarded by telegraph a copy of the order of Major General D. McCook, assigning Mary E. Walker to the 52nd Ohio Infantry, and recommended that she be paid as a contract physician from March 11, 1864 to August 23, 1864. The telegrams were forwarded to the War Department for an opinion and recommendation and were returned with a statement that she had not received any contract as Acting Assistant Surgeon but that her appointment was purely nominal to enable her to gain information from the enemy. On August 25, 1864, the telegrams were returned to the War Department with an endorsement that the Secretary of War directed that Mary E. Walker be paid as a contract physician.

"No records were found to indicate that Dr. Mary Walker was commissioned in the Army."

[28]Personal Communication from Maxine King, Secretary to the Dean, State University of New York, Upstate Medical Center, Syracuse, New York, 28 Jun 57

"In reply to your inquiry relative to Dr. Mary E. Walker, we do not have any record of her graduation.

"The following excerpts from an article in the **Medical Woman's Journal,** Vol. 53, October 1946, may prove helpful to you: "...New York State had issued a charter to a small institution, known as 'Syracuse Medical College', never in any way connected with Syracuse University. It was an Eclectic school and very short-lived... This school admitted Mary Walker in 1853... At the end of the last term of Syracuse Medical College, February 1855, two students were granted the Degree of Doctor of Medicine; they were Mary E. Walker of Oswego, N.Y....

"Since this College was no part of our former parent institution, Syracuse University, we have no information which would give any further detail relative to Dr. Mary E. Walker."

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ONE SENTENCE ESSAY

Why Red Tape is Inevitable

As long as there are the few parasites, willing to siphon off unethically or unlawfully unearned amounts for their own enrichment, strictly enforced rules and regulations are unavoidable.

... Salt Lake City Tribune

NINETY

(Continued from page 131)

nicked my finger with a needle. This was a bad bug. We were having a scarlet fever epidemic with a hospital epidemic of about 15 per cent. One of the interns did die with an extremely acute attack. My friend had been in charge of the ward when he was affected by an acute otitis media, which rapidly progressed to his mastoid process. The surgeon wisely deferred operation until there was some walling off, and he operated with a good recovery. This was probably the last time a leech was ordered in the Rhode Island Hospital. The next day the familiar lymphangitis was evident. We treated it with the Gamgee dressing and opening up of the initial lesion.

The next time I faced a challenge was in 1912, on this occasion a severe acute tonsillitis. After the acute stage, it settled down to a more or less chronic state with a slight evening temperature and an irregular heart beat. I was rested for about six weeks and finally got well again. The same thing happened in 1929, but this time Doctor James W. Leech removed my tonsils. I contracted the flu in the big epidemic of 1918, but recovered mostly by pure luck and my wife's care.

In 1943 lobar pneumonia hit me again. Here I was very lucky, because sulfadiazine had just become available and it quickly brought the disease under control. I very likely would have died without it. Doctor Alex M. Burgess, whom I asked to see me, had an easy job. Antibiotics have without doubt been the greatest medical advance.

In 1948 I had a coronary occlusion. Doctor Morgan Cutts and my wife brought me through that. It was not a very bad one, and I was never in great danger. I then made changes in my daily life patterns. I stopped my pipe smoking, cut down on my food intake, spent nine hours in bed instead of seven, came home for lunch, and had a rest afterwards. My two brothers and my hister died with their first ones. My better physical condition probably made the difference. Nearly 23 years after a coronary, I am still fairly active, swimming every day in summer, singing with the Glee Club in the winter. This may be something of a record.

SIXTY TO SEVENTY-FIVE

These are the judicial years. You can relax a little and you should. Your physical powers are getting less. Your advice is being sought more and more, but less active participation is needed. You are on the consulting staff, chairman of the board, or judge, or you have a young assistant. Even now you should live like a poor man as much as possible — wash your own car, cut your grass, help with the housework, don't overeat or overdrink, and get more sleep. The main danger in these years is from overweight and lack of exercise. Five minutes of setting-up exercise every morning should be started and be continued the rest of your life. The appearance of old age is largely a matter of poor posture and muscular weakness. The diet must be reduced to about 2000 calories a day or even less perhaps, as the caloric requirements of the body get less as the metabolism slows up.

SEVENTY-FIVE TO NINETY

These are old age. Your health in them is largely a matter of what has gone before. If you have handed over to old age a worn-out body, you can't do much about it. More sleep is beneficial. If you needed eight hours from 15 to 75, you probably will live longer with nine hours or even 10. It takes longer to recharge the old batteries. Try to have a great many young friends, but don't try to keep up with them. In these retirement years it is essential to keep occupied. Some have constructive hobbies, some like to paint, some to write. It doesn't matter, as long as you keep doing something and keep your body fit by gentle exercise.

(Continued on next page)

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Free at last from tensions, with your children grown — your grandchildren and great-grandchildren coming along — you should enjoy these years as much as any in your life. I might call these the years of philosophy, which means "the love of wisdom." You should be able to reach serenity.

This about concludes my explanations of what seem to me the reasons I have survived. I still have too much time and not enough people to talk to.

⚓ ⚓ ⚓

Book Review

PSYCHIATRY IN PRIMARY CARE, by Remi J. Cadoret and Lucy J. King. The C. V. Mosby Company, Saint Louis, 1974. $12.95.

I have reviewed **Psychiatry in Primary Care** and must state that this is a very informative book and is written in such a manner as to pose little problem for those not skilled in psychiatry.

Its presentation is concise, to the point, and certainly should serve as one of the primary books in psychiatry by the family physician.

CHARLES E. MILLARD, M.D.

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Editor's Mailbox

To the Editor:

Your printing in the January 1976 issue of the **Journal,** of extractions from my June 1975 AMA address is deeply appreciated. Also, many thanks for the editorial comments which preceded it.

Best wishes.

Sincerely yours,
THEODORE COOPER. M.D.
Assistant Secretary for Health

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Peripatetics

Two Rhode Island surgeons have announced plans to visit the Dominican Republic for a week to perform heart and lung surgery for needy patients and to present medical lectures to local physicians.

The visit of MAURICIO GOLDBERG of Narragansett and JOHN YASHAR of Providence is being coordinated by Joseph R. Muratore of Warwick, former Italian vice-consul for Rhode Island.

Doctor Goldberg and Doctor Yashar are donating their services.

* * *

DAVID J. FISH recently retired as physician-in-chief of the Rhode Island Hospital Department of Psychiatry. He will continue in the practice of psychiatry as a member of the consulting staff.

Doctor Fish is an alumnus of Brown University and graduated from Jefferson Medical School. In addition to serving at Rhode Island Hospital, he has been chief of the Department of Neurology and Psychiatry at The Miriam Hospital, consultant in Psychiatry to Bradley Hospital, and physician at Butler Hospital. Doctor Fish is past president of the Rhode Island branch of the American Psychiatric Association and chairman of the Mental Health Committee of the Rhode Island Mental Health Society.

* * *

SEEBERT J. GOLDOWSKY and MELVIN D. HOFFMAN were recently reappointed Chairman and Vice Chairman, respectively, of the Rhode Island Interagency Council on Smoking.

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MESSAGE FROM THE DEAN

(Continued from page 82)

were chosen by truly eminent institutions in 18 different states. These hospitals include some of the most famous centers of American medical education and all are actively affiliated with a college of medicine. The selection results suggest that the educational achievements of our students are now well accepted on a national level.

STANLEY M. ARONSON, M.D.
Dean of Medical Affairs
Brown University

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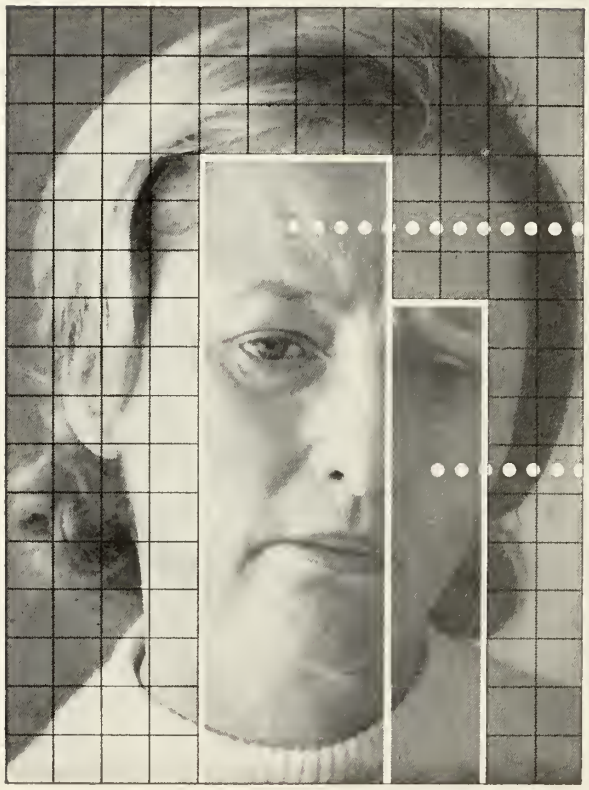
Rhode Island Medical Journal

April, 1976 Vol. 59, No. 4

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequenc and/or severity of grand mal seizures ma require increased dosage of standard ant convulsant medication; abrupt withdrawa may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Kee addiction-prone individuals under carefu

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

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with associated
depressive symptoms

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Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

APRIL, 1976 VOLUME 59, No. 4

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CONTINUING MEDICAL EDUCATION CALENDAR

MAY

3 50th ANNUAL MEETING OF THE MIRIAM HOSPITAL CORPORATION. Address by DONALD S. FREDERICKSON, M.D., Director, National Institute of Health. 8:15 P.M., Sopkin Auditorium, The Miriam Hospital.

5 165th ANNUAL MEETING OF THE R. I. MEDICAL SOCIETY. Ballroom, Marriott Inn, Providence. Chapin Orator: William H. Harris, M.D., Chief, Hip and Implant Surgery Unit, Massachusetts General Hospital. Topic: "Detection and Prevention of Thromboembolic Disease." Dinner Address: "The AMA Updated: Philosophically, Strategically, and Structurally" by James H. Sammons, M.D., Executive Vice President, American Medical Association. Panel Presentation: "Problems of Mental Health Care in Rhode Island." Business Meeting 1 P.M., Scientific Session 2 P.M., Reception 6 P.M., Dinner 7 P.M.—Music and dancing during and after dinner until 11 P.M. Reservations close Monday, May 3. Call 331-3207.

5 "X-RAY EVALUATION OF THE ACUTELY ILL OR INJURED CHILD." Topics to include: "Upper Airway Obstruction" and "Acute Pneumonia," Dr. Herman Grossman, Professor of Radiology and of Pediatrics, Duke University School of Medicine; "Musculoskeletal Trauma" and "The Acute Abdomen," Dr. Samuel McFadden, Pediatric Radiologist, Boston City Hospital; "The Trauma of Delivery" and "Hypertensive Kidney Disease," Dr. Richard Frates, Clinical Instructor, Section of Reproductive and Developmental Medicine, Brown University Program in Medicine. George Auditorium, Rhode Island Hospital, 1:00 P.M.-5:15 P.M. For information contact: John S. O'Shea, M.D., Rhode Island Hospital.

12 "SUDDEN INFANT DEATH SYNDROME." Topics will include: "Sudden Infant Death: Its Nature, Importance and Implications for the Pathologist," Marie Valdes-Dapena, M.D., St. Christopher's Hospital, Philadelphia; "What's New in SIDS Research?" Joan Hodgman, M.D., University of Southern California; "Formation and Function of a Regional SIDS Center," Carolyn Szybist, R.N., Loyola University Medical Center; and others. 1:00 P.M.-10:00 P.M., Bishop McVinney Auditorium, Providence, R. I.

14 "URINARY TRACT IN CHILDHOOD." Chester M. Edelman, Jr., M.D., Professor and Chairman, Department of Pediatrics, Albert Einstein College of Medicine, Bronx, NY. 10:30 A.M., Kay Auditorium, Roger Williams General Hospital.

14-16 "CURRENT ADVANCES IN TUMOR LOCALIZATION." A series of in-depth discussions of the definitian af lacalized disease by multiple new modalities and concepts. Speakers will include Dr. Stanley Baum, University of Pennsylvania; William Beierwaltes, M.D., University of Michigan Medical School; Barbara Carter, M.D., Tufts University Medical Schoal; Danald King, M.D., College af Physicians and Surgeans, Calumbia University; Daniel Kovnat, M.D., Baston University Medical Schaal; Christapher Marshall M.D., New York University Medical Schaal; Hiromi Shinya, M.D., Beth Israel Hospital, New York City; and Philip Strax, M.D., New York Medical College. Brown University Program in Medicine Faculty who will be speaking include Doctors Stanley M. Aranson, Paul Calabresi, Ben C. Claunch, Joseph D. DiMase, Richard E. Frates, Arvin S. Glicksman (program chairman), David R. Hallman, Henry C. McDuff, Calin Orton, Melvin Tefft, Sanford C. Spraragen, and Banice M. Webber.

The symposium will be held at the Sheraton Islander Inn, Newport, RI. For information contact: Office of Continuing Medical Education, Brown University, Bax G, Providence, RI 02912.

15 JESSE E. THOMPSON, M.D., Professor of Surgery, The University of Texas Health Science Center at Dallas, Sauthwestern Medical School. (Topic to be announced.) Gearge Auditorium, Rhode Island Hospital.

BROWN UNIVERSITY
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A Message from the Dean

A POSSIBLE MODEL FOR FURTHER ACADEMIC GROWTH

While the medical school at Brown University has achieved full national accreditation and is about to graduate its second class of physicians, it clearly requires still further growth to fulfill its responsibilities in undergraduate medical education. There are substantial areas in the clinical sciences, for example, where the weight of medical student teaching is presently borne by those practicing physicians who have volunteered their services to the medical school. While such physicians are essential in sustaining our teaching efforts, they have neither the time to undertake research work nor the laboratory resources to interact with or impinge upon other scholarly groups in the faculty. Ophthalmology is one such area.

In recognition that ophthalmology is an essential part of undergraduate medical education, a committee was formed on October 15, 1975, and charged with the following responsibilities:

1. Design a program in academic ophthalmology best suited to the educational needs of Brown University and in keeping with the realities of our resources.
2. Determine which people on the main campus or in the hospitals might participate in coordinated educational and investigative programs relating to the various sciences concerned with vision.
3. Determine which institutions in the state of Rhode Island might be invited to participate in such a program.
4. Establish a realistic timetable for the incorporation of these sciences, physicians, institutions, and curricular plans into an effective and integrated effort.
5. Plan various meetings to explore those innovative means by which other universities have established their departments of ophthalmology.

The Committee consisted of Doctors Robert Kinder, Arthur Geltzer, James McIlwain and Joseph Dowling (chairman) and Mr. Levi Adams. Later in the year, Doctor Reid S. Appleby, Jr., representing the Rhode Island Ophthalmological Society, joined the study group.

The Committee has met on a number of occasions and has proposed various substantive recommendations to the Curriculum Committee of the Program in Medicine relating ways in which the teaching of eye disease might better be incorporated into the fabric of these current clinical clerkships. The Committee had also taken note of the fact that some Brown University graduates have become outstanding authorities in academic ophthalmology. Accordingly, two of these graduates (Doctors Spalter and Bellows) were asked to participate in the planning phases.

On the evening of March 5, 1976, the Committee met with Professor Lorrin Riggs and Doctors Bellows and Spalter to consider what steps might be undertaken to create a department of visual sciences at Brown University and to explore what effects its establishment might yield. In conjunction with the Rhode Island Ophthalmological Society, Brown University hosted a meeting on the following morning for approximately 35 practicing ophthalmologists within the state of Rhode Island. The assembled group discussed the various recommendations generated by the Committee and attempted to identify problems

(Continued on next page)

and concerns from the points of view of the practicing physicians.

One of the many joint decisions arising from these meetings was the convening of a two-day seminar on education in the visual sciences scheduled for June 2 and 3, 1976, during the week preceding University Commencement. This meeting will be sponsored jointly by the Committee, Brown University and the Brown Medical Association. Speakers who have accepted the invitation of the Committee include, Doctor Karl Kupfer, (Director, National Eye Institute of the National Institutes of Health), Doctor Bruce Spivey, (Pacific Medical Center, San Francisco), Doctor Arthur Keaney, (University of Louisville, School of Medicine), Doctor Sidney Fox, (New York University), Doctor Stephen Podos, (Mount Sinai School of Medicine) as well as others.

It is the hope of the Ophthalmology Committee that these candid discussions will help to determine whether the creation of a unique department of the visual sciences is feasible. Any plan offered by the working committee would obviously have to obtain the approval of the trustees of those hospitals under consideration. The funding of such an effort is yet another problem which must be faced.

Such a department could arise, therefore, as a joint venture between the academic and practicing sectors of medicine in conjunction with the relevant basic sciences. It is further hoped that this cooperative endeavor between these three groups will form a model to guide us in evolving future plans for growth within the Brown University Program in Medicine.

STANLEY M. ARONSON, M.D.
Dean of Medical Affairs

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The President's Page

WHY SUPPORT MALPRACTICE REPORT?

By Stephen J. Hoye, M.D.

On March 31, 1976 the Rhode Island Medical Society Executive Office received a letter, addressed to the Society, from a member (who shall remain anonymous). The author accused the Medical Society of sitting "idly by without protest . . . while malpractice Insurance has skyrocketed." He also objected to the prospect of coming under "further regulation such as relicensure without so much as one protest from the members of the Medical Society who represent me." Claiming that he received "more representation" from a member of the Osteopathic Society, the author referred to the Medical Society's posture as "meek" and stated, "With representation such as this I don't need enemies."

The following is my reply to him and to all members who hold similar views:

I, who have expended hundreds of hours on the malpractice crisis representing my fellow physicians, would like to reply to your criticisms. I sympathize with your concern over high malpractice insurance rates. You are not alone. Was this accepted without protest? Let me review the situation which existed last May.

Physicians all over the state were incensed over the new "claims-made" policies of St. Paul Fire and Marine, our insurer. Physicians were concerned about the "long tail" under the "claims-made" concept. Hospital staffs and district medical societies threatened a work stoppage on June 9 if an alternative to "claims-made" was not devised. In response Governor Philip W. Noel and the Director of Business Regulation created a Joint Underwriting Authority, providing for "occurrence" policies. The Insurance Services Office (ISO) recommended a 250 per cent increase over the old rates for the new policies. Thanks to the Director of Business Regulation and our three physician representatives on the JUA Board, this was reduced to 200 per cent.

The osteopaths were up in arms about having to be in the JUA. They had not experienced the same problems and were comfortable in their arrangements with a national carrier. They were furious at being mandated into the JUA. This is the real reason for their opposing the Governor's Commission recommendations. In a sense, they are justified.

As for the Commission's recommendations, the continuing medical education requirements were not proposed by the Rhode Island Medical Society. In a number of states where compromise malpractice legislation has been enacted, CME became part of the package. We did not want such requirements in the Rhode Island Bill, but were in the minority on this issue. Consumer groups in Rhode Island and in other states are demanding such standards.

As for other elements of the legislation, we did very well. The change in the statute of limitations from three years from discovery to two years from **occurrence** represents the single most important achievement. Elimination of the collateral source rule represents another major victory. Thus we effected substantial reforms in the tort law affecting malpractice.

If this bill is approved as introduced, we intend to seek further amendments at future sessions. If our gains are deleted, we will vigorously oppose the measure and are assured by the Lieutenant Governor that the bill will be defeated. It is a good beginning and will improve the climate. We would have introduced our own bill for sweeping tort reform if it had a chance of passing. Our friends, advisers, counsel, and others assure us that a bill containing tort reform alone would have no chance of passage. The State House has

(Continued on next page)

been inundated with calls from attorneys objecting to the proposed tort law changes.

Considering the political climate in Rhode Island, it is not realistic to think we can pass an Indiana type bill. The Indiana Bill is as close to ideal as will ever be enacted, provided it is constitutional. The Governor of Indiana, Otis Bowen, is a physician who was formerly Speaker of the Indiana House. His state of the state address focused on the malpractice problem. The legislature is weighted with farmers and businessmen. The influence of labor and the lawyers is considerably less. Indiana is not a one newspaper state; and a highly respected conservative publisher, among several such favorable to medicine, has considerable influence in the state. The Indiana State Medical Association spent $135,000 on public relations and $115,000 on legal fees. Indiana doctors have for years been deeply involved in politics. This is how the Indiana Bill passed.

What would be the reaction of the General Assembly, the public, and our state government if the Rhode Island Medical Society opposed the compromise bill? The Commission was formed by the Governor at our request to address the serious problems which confronted us. Nine members of the General Assembly sat on the Commission, in addition to influental consumers, lawyers, government officials, insurance representatives, and physicians. The Commission met for almost ten months without compensation. The compromise bill contained items which affected everyone, each group having to accept something that it opposed. We have been told that to turn our backs on the Commission, which had been established at our request, would be political suicide. This bill will improve the climate. Even though it doesn't go as far as we desire, it represents a beginning! If we oppose the bill, the groups represented on the Commission will feel betrayed.

I have spent countless hours in discussions with insurance representaties, government officials, legislators, lawyers, physician colleagues, consumer representatives, newspaper and media persons, and others. Other colleagues and the staff of the Society have expended days, nights, and weekends to repre-

(Continued on page 172)

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Books Received For Review

The Editor acknowledges the receipt of the following books and thanks the publishers for sending them. We shall have as many as possible reviewed. The volumes are greatly appreciated and will be added to the Library's collection where they will be available to readers.

Infectious Disease in Obstetrics and Gynecology. Edited by Giles R. G. Monif, M.D. Maryland, Harper & Row, Publishers, Inc., 1794. $27.50.

Current Medical Diagnosis and Treatment by Marcus A. Krupp, M.D.; Milton J. Chatton, M.D.; and Associate Authors. Los Altos, California, Lange Medical Publications, 1976. $14.00.

Physicians Handbook by Marcus A. Krupp, M.D.; Norman J. Sweet, M.D.; Ernest Jawetz, Ph.D., M.D.; Edward G. Biglieri, M.D.; and Robert L. Roe, M.D. Los Altos, California, Lange Medical Publications, 1976, Eighth Edition. $8.00.

Your Second Life by Harold L. Karpman, M.D. and Sam Locke, Los Angeles, J. P. Tarcher, Inc., 1975. $8.95.

Ciba Foundation Symposium 34 (n.s.) **Outcome of Severe Damage to the Central Nervous System.** Amsterdam, Elsevier/Excerpta Medica, 1975.

Psychiatric Illness in Adolescence its psychopathology and prognosis by M. T. Haslam, M.A. London and Boston, Butterworth & Co. Publishers Ltd., 1975.

Diet Away Your Stress, Tension, and Anxiety by J. Daniel Palm, M.D. Garden City, New York, Doubleday & Company, Inc., 1976. $6.95.

Ciba Foundation Symposium 35 (n.s.) **Biochemistry of Pharmacology of Platelets.** Elsevier/Excerpta Medica, 1975.

General Urology, by Donald R. Smith. 8th Edition. Los Altos, California, Lange Medical Publications, 1975. $11.00.

The New Way to Live With Diabetes, by Brian Boylan and Charles Weller, M.D. Garden City, New York, Doubleday & Company, Inc., 1976. $2.50.

Modern Home Dictionary of Medical Words by Morris Fishbein, M.D. Garden City, New York, Doubleday & Company, Inc., 1976. $1.95.

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Paul A. Walker, Ph.D.

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Cody Wilson, Ph.D.

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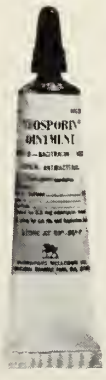
Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing. **CONTRAINDICATIONS:** Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components. **WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended. **PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs. **ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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Contraindications: Impaired renal function, untreated Addison's Disease, dehydration, heat cramps and hyperkalemia.

Warnings: Do not use excessively.

Precautions: Administer with caution and adjust to the requirements of the individual patient. The patient should be checked frequently and periodic ECG and/or plasma potassium levels made. Use with caution in patients with cardiac disease. In hypokalemic states, attention should be directed toward the correction of the frequently associated hypochloremic alkalosis. ***Patients should be cautioned to adhere to dilution instructions.***

Adverse Reactions: Potassium intoxication indicated by listlessness, mental confusion, paresthesia of the extremities, weakness of the legs, flaccid paralysis, fall in blood pressure, cardiac depression, arrhythmias, arrest and heartblock. Vomiting, nausea, abdominal discomfort and diarrhea may occur.

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the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct nontherapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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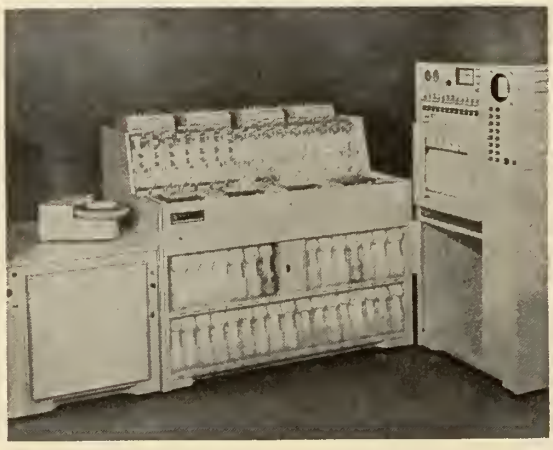

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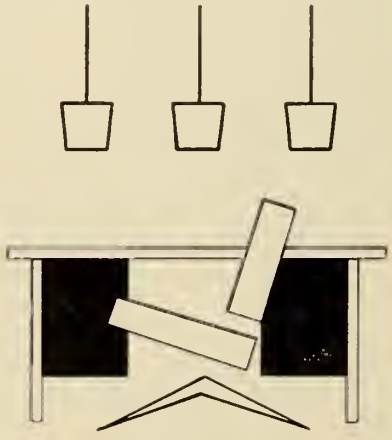

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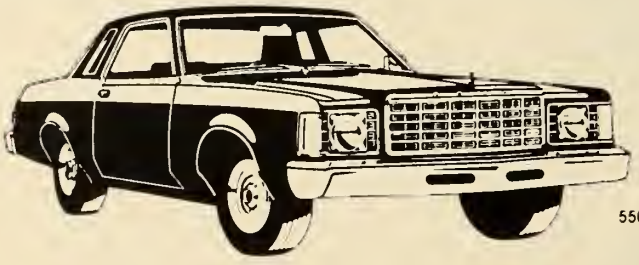

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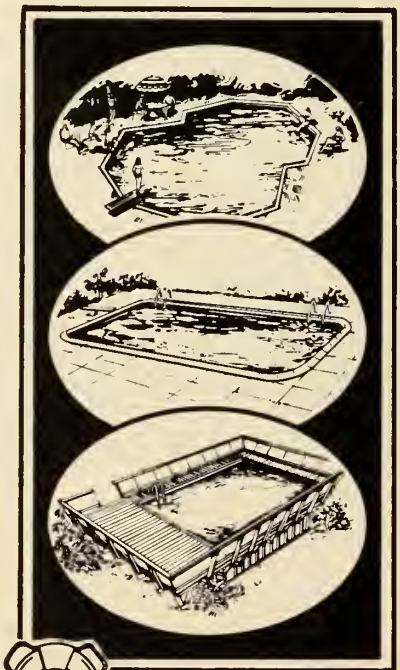

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Indications: *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Fat Embolism And The Respiratory Distress Syndrome

With Proper Respiratory Care The Great Majority Of Patients With Fat Embolism Survive

By Karl E. Karlson, M.D., Ph.D.

The first description of fat embolism in the human subject was made by Zenka in 1862, when he described the histologic picture of fat embolism in the lung of a patient dying after injury. The first reported clinical diagnosis of fat embolism was made in 1873 by von Bergmann in a patient with a fractured femur.[1] The modern concepts of fat embolism as primarily a respiratory disease date from work of Peltier begun 20 years ago.[2]

INCIDENCE OF FAT EMBOLISM

It has been estimated that fat embolism can be demonstrated in 90 per cent of patients dying after trauma.[3] Fat embolism is the primary cause of death in approximately 25 per cent of patients dying after fractures.[4] It appears that immobilization of fractures prevents the development of fat embolism, since it has been demonstrated that the incidence of fat embolism is lower after early immobilization or operative fixation than after closed reduction. As the incidence of fat embolism is lower after open reduction of fractures or intramedulary nailing than after closed reduction, pressure within the fracture site appears to be the factor contributing to the migration of fat into the blood vessels.[5]

KARL E. KARLSON, M.D., Ph.D., *Professor of Medical Science, Brown University; Surgeon-in-Charge, Division of Thoracic and Cardiovascular Surgery, Rhode Island Hospital.*

MECHANISM OF FAT EMBOLISM

(Table I)

Fat globules enter the circulation from fat-containing bone marrow or soft tissue at the site of trauma. They arise from disruption of tissue and enter the circulation through torn venules, since the tissue pressure at the site of trauma is higher than the intravascular pressure. Fat globules are therefore forced into the circulation and are carried to the lungs.[6] Intravascular coalescence of serum lipoprotein is presumed to be a less significant mechanism of formation of intravascular globules.[7] It has also been proposed that free fatty acids may be released from the tissues by catecholamines during trauma, but this is also probably a minor source.[8]

PATHOGENESIS OF PULMONARY FAT EMBOLISM

(Table II)

The principle symptomatology of fat embolism arises from the respiratory distress syndrome which occurs after the fat globules reach the capillaries of the lung (Figure I). Mechanical block of the pulmonary capillaries by neutral fat globules may cause pulmonary hypertension shortly after trauma. This would result in electrocardiographic changes

(Continued on next page)

TABLE I
MECHANISM OF FAT EMBOLISM

I. LIBERATION OF FAT GLOBULES
from bone marrow or soft tissues
II. TEARING OF VENULES
III. FAT GLOBULES FORCED INTO CIRCULATION

Intravascular coalescence of serum lopoprotein
Free fatty acids released from tissues by catecholamines

of right ventricular strain. Platelet disintegration, which accompanies platelet aggregation, releases vasoactive amines, such as serotonin and histamine. These amines cause secondary pulmonary vasoconstriction and pulmonary hypertension. Therefore, in the early period after fat embolism pulmonary hypertension is produced by two mechanisms, mechanical block and vasospasm.

Small fat globules may pass through the pulmonary capillary bed and enter the systemic circulation. Cerebral manifestations of fat embolism following mechanical blockage of cerebral capillaries occur through this mechanism. Other systemic evidences of fat embolism are fat emboli in the retinal vessels and fat excretion in the urine. Petechiae due to fat blockage of cutaneous capillaries may also be observed.

Fat which lodges in the pulmonary capillaries may pass through their walls into the pulmonary interstitium and then into the alveoli. Alveolar fat is eliminated through the sputum and sometimes may be demonstrated by examination of sputum.

The principal pulmonary effects of fat embolism occur after 24 to 72 hours, when the neutral fat in the pulmonary capillaries has been hydrolyzed to free fatty acids by the action of local tissue lipase. These fatty acids then set up a chemical hemorrhagic pneumonia with interstitial hemorrhage and edema. Alveolar hemorrhage and edema follow, with development of atelectasis from mechanical blockage of the alveoli and bronchioles. Alveolar surfactant which normally reduces the surface tension of the alveolar lining is destroyed, furthering alveolar collapse. The resulting atelectasis produces pulmonary venoarterial shunting as systemic venous blood passes through unventilated lung. This results in clinical hypoxemia and the typical findings of respiratory distress syndrome.

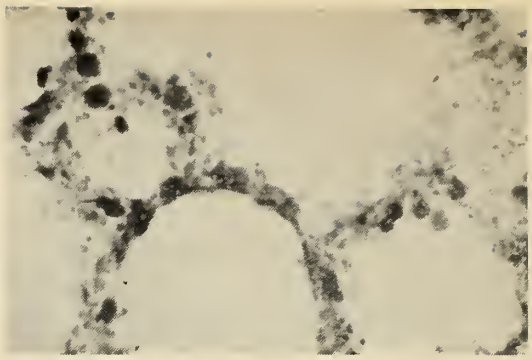

Figure I

Photomicrograph of lung showing fat globules in capillaries, alveolar septa, and alveoli. Erythrocytes and leukocytes are also present in alveoli, showing beginning hemorrhagic pneumonia.

DIAGNOSIS OF FAT EMBOLISM
(Table III)

Fat embolism may be suspected if the patient has suffered skeletal trauma, such as fracture of the femur. Inadequate immobilization of the fractures, allowing disruption of the fatty marrow and fatty subcutaneous tissue, contributes to fat embolism and is an important aspect of the history. If hypovolemic shock complicates the trauma, there is a higher incidence of fat embolism.

Physical examination shows evidences of fat embolism, both directly and indirectly. Petechial hemorrhages may arise as a result of rupture of capillaries after obstruction by fat, but more likely are due to thrombocytopenia secondary to platelet aggregation

TABLE II
PATHOGENESIS OF PULMONARY FAT EMBOLISM

IMMEDIATE
- MECHANICAL CAPILLARY BLOCK (neutral fat)
  - pulmonary hypertension (ECG changes)
- PLATELET AGGREGATION (around fat globules)
  - platelet disintegration
  - release of vasoactive amines (serotonin, histamine)
  - pulmonary vasoconstriction and hypertension
- SMALL EMBOLI ESCAPE LUNGS
  - systemic embolism (cerebral)
  - excreted in urine
- FAT PHAGOCYTOSED IN LUNGS
  - eliminated via alveoli and sputum

DELAYED
- LIPOLYSIS TO FREE FATTY ACIDS
  - chemical hemorrhagic pneumonia
  - interstitial hemorrhage and edema
  - alveolar hemorrhage and edema (hyaline membrane)
  - atelectasis (decreased surfactant)
  - pulmonary venoarterial shunting

RDS (respiratory distress syndrome)
- hypoxemia

around fat globules in the lungs. Disturbances of the sensorium result from anoxemia either secondary to capillary blockage in the brain by fat or, more commonly, anoxemia secondary to respiratory failure. Examination of the urine and the sputum may reveal fat globules. Anemia may occur as a result of trapping of red blood cells in the capillary systems. Thrombocytopenia is secondary to trapping of platelets in the pulmonary circulation around fat droplets. Disseminated intravascular coagulation has been reported in fat embolism and may contribute to the thrombocytopenia. Respiratory insufficiency leads to tachypnea and dyspnea. Chest roentgenograms show pulmonary infiltrates and atelectasis.

Hypoxemia is the principle sign of pulmonary fat embolism and is the most serious complication. Because venoarterial shunting may be severe, it is impossible for the lungs to oxygenate adequate amounts of blood to raise the arterial oxygen tension to satisfactory levels despite hyperventilation sufficient to reduce the arterial carbon dioxide tension to sub-normal levels. Therefore, periodic determination of arterial blood bases is essential in any patient who has evidence of respiratory distress after trauma.

TREATMENT OF FAT EMBOLISM

(Table IV)

The treatment of fat embolism is directed principally to the treatment of the pulmonary insufficiency. Methylprednisolone in pharmacologic doses (30 mg/kg) reduces the pulmonary inflammatory reaction and the atelectasis and pneumonia. Heparin intravenously will reduce the intravascular agglutination and secondary intravascular coagulation.[1]

TABLE III
DIAGNOSIS OF FAT EMBOLISM

HISTORY
SKELETAL TRAUMA
INADEQUATE IMMOBILIZATION OF FRACTURES
HYPOVOLEMIC SHOCK
EXAMINATION
PETECHIAL HEMORRHAGES
DISTURBANCES OF SENSORIUM
RETINAL ARTERIAL FAT OR EXUDATES
URINARY FAT
SPUTUM FAT
ANEMIA, THROMBOCYTOPENIA
TACHYPNEA AND DYSPNEA
PULMONARY INFILTRATES AND ATELECTASIS ON X-RAY
*HYPOXEMIA

TABLE IV
TREATMENT OF FAT EMBOLISM

SOLUMEDROL (30 mgm/Kg.)
HEPARIN
DEXTRAN
ALCOHOL INTRAVENOUSLY
OXYGEN
IPPB
MECHANICAL VENTILATION
PEEP

Low molecular dextran (500 ml intravenously daily) reduces intravascular sludging and improves pulmonary and systemic capillary blood flow. Alcohol intravenously (e.g. 1000 ml 5 per cent alcohol — 5 per cent dextrose) has been used for its antilipase activity to decrease the amount of liberated fatty acids.[2]

The respiratory distress syndrome, when it occurs, is treated with oxygen, respiratory physiotherapy, mechanical ventilation, and positive end-expiratory pressure (PEEP). If administration of 50 per cent oxygen does not raise the PaO_2 to 60 mm Hg and reduce respiratory work to comfortable levels, an endotracheal tube should be passed and mechanical ventilation instituted. It is important that the lungs be adequately expanded to prevent the development of further atelectasis and to assist in the expansion of already atelectatic lung. This can be done by ventilating the patient with double normal tidal volume (15 cc/kg tidal volume). The hyperventilation which occurs is corrected by increasing the dead space in the ventilator. If more than 50 per cent oxygen in the ventilator is required to obtain a PaO_2 of 60 mm Hg or higher under these circumstances, PEEP should be instituted. Five or 10 cm of water of expiratory resistance will frequently aid in expansion of the lung, so that increased concentration of oxygen may not be necessary. However, in extreme cases concentrations greater than 50 per cent oxygen may be required together with PEEP for adequate oxygenation.

PREVENTION OF FAT EMBOLISM

Most clinical fat embolism can be prevented by prompt immobilization of fractures at the site of the accident and by immediate effective treatment of hypovolemic shock. Fat embolism is rarely seen when these two precautions are taken promptly after trauma.

SUMMARY

Fat embolism is a frequent occurrence after

(Continued on page 172)

Microsurgery And The Treatment Of Pain

Newer Techniques And Equipment Offer Significant Advantages In Management Of Difficult Problems

By Toussaint A. Leclercq, M.D.

Helping the patient with chronic intractable pain is an almost everyday problem for the practitioner. Despite improvement in surgical techniques, the decision as to which case will benefit from pain surgery and when the procedure should be performed is a difficult one to make.

One of the basic principles of medicine, **primum non nocere,** applies particularly to this kind of patient, as emphasized by Leriche[1] in his classical book on the surgery of pain. Any procedure which plagues the patient with a neurological deficit which had not been present before should be rejected or, at the most, considered as a last resort. A prime example is postoperative hemiplegia following cordotomy. Death, severe motor deficits, or urinary incontinence are not rare following bilateral cordotomies[2]. Very often a procedure, though bringing relief of pain, will create a new kind of pain which can be severe, and sometimes worse than the preoperative condition. Such useless procedures leave the patient desperate, deepening his feeling (and that of his physician) that his case is hopeless.

Finally, surgery for pain in chronic debilitated patients should be as benign as possible. This is particularly true in cancer patients, most of whom have already been submitted to multiple surgical procedures and have been hospitalized for numerous prolonged periods of time.

TOUSSAINT A. LECLERCQ, M.D., *Neurological Surgeon, Roger Williams General Hospital.*

The introduction of the operating microscope in neurosurgery has recently opened up new possibilities in the management of patients in pain. Using this equipment, the surgeon with the help of specially designed instruments can approach the structures through a narrow bloodless field, reducing the operative trauma. The excellent illumination provided allows still pictures and movies of the procedures to be taken for later critical review and comparative studies. It should be stressed, however, that mastering these techniques requires special training, as emphasized by Yasargil[3]. In view of these considerations, I shall review three procedures used in the treatment of pain.

TRANSPHENOIDAL HYPOPHYSECTOMY

Hypophysectomy for the treatment of intractable pain in metastatic breast and prostatic carcinoma is now a well-accepted procedure. The work of Bronson Ray[4] in particular has proven the value of this procedure. However, one often hesitates for obvious reasons to submit an already debilitated patient to a major intracranial operation associated with significant mortality and morbidity.

Refining the transphenoidal approach by the use of an operative microscope and televised fluoroscopy, Jules Hardy[5] in Montreal has advanced extracranial access to the pituitary gland. Among the various procedures available, Hardy's technique is unique in providing complete pituitary removal with mini-

Case No.	Age Sex	Malignancy	Preoperative Pain	Cordotomy Level	Analgesia	Pain Relief On Discharge	Complications	Late Result
1	48 M	Undifferentiated lung epithelioma	lt hemithorax	rt C5-6	T-2	very good	transient rt leg weakness	Free of pain until death 1 mo later
2	69 F	Hypernephroma	pelvis, both legs	rt C6-6 lt C4-5	T-5 T-5	very good	none	unknown
3	45 F	Adrenal gland epithelioma	sacrum-pelvis bilat	bilat C6-7	Bilat T9-10	—	deceased 48 hrs postop	—
4	58 M	Undifferentiated lung epithelioma	lt arm	rt C4-5	C-5-T-10	very good	none	free of pain until death 5 mos later
5	64 F	Breast carcinoma	lt arm, lt hemithorax	rt C4-5	C-5-T-12	very good	none	free of pain until death 15 mos later
6	57 F	Breast carcinoma	rt arm rt hemithorax	rt C4-5	C-5-T-12	very good	none	free of pain until death 2 mos later
7	37 F	Breast carcinoma	lt arm	rt C4-5	C-5-T-3	good	none	partial return of pain 2 wks postop
8	49 F	Breast carcinoma	lt thorax, rt lower thorax	rt C5-6 lt C5-6	T-3-L-1 T-3-L-4	very good very good	none CSF fistula in neck	still free of pain
9	42 M	Unknown	lt arm	rt C4-5	C-6-S-1	recurrence of pain lt arm	none	analgesic level dropped to T-2 2 wks after surgery
10	39 F	Breast carcinoma	rt pelvis, rt leg	lt C5-6	T-2	very good	none	free of pain until death 3 mos later
11	70 M	Rectal carcinoma	Rectum, buttocks	bilat C5-6	T-6, rt T-8, lt	very good	none	good 4 mos later (last follow-up)
12	47 F	Postop thoracic sympathectomy	lt shoulder lt upper thorax	rt C5-6	C-5-6	very good	none	good 1 year later
13	61 F	Painful reaction to acupuncture	lt hip, lt leg	rt cervic.	T3-4	very good	none	good 6 mos later
14	69 F	Painful scar following thoracotomy	lt chest	lt C5-6	T-3	very good	none	good 8 mos later
15	51 F	Hypernephroma metastases to iliac bone	lt hip, lt upper leg	rt cervic.	T-4	very good	Pain rt arm, ? etiology	good 8 mos later

mal mortality and morbidity. Results in pain relief were reliable. In a series of 146 cases of breast carcinoma complete relief was achieved in 135 cases and partial relief in 5 cases, while there were only 6 failures[6].

Hypophysectomy is also indicated in the treatment of prostatic carcinoma, as stressed by West, et al. While its effectiveness still remains to be proven in a larger series, hypophysectomy appears to slow the evolution of hormonal dependent carcinoma.[7].

Indeed, the results of hypophysectomy in pain relief have been so rewarding that other procedures for this purpose, such as cordotomy and rhizotomy, should be abandoned as one masters the newer technique.

ANTERIOR MICROSURGICAL CORDOTOMY

Division of the spinothalamic tract in the treatment of pain is frequently used. A number of publications[8] have established its value. However, the classical approach has many drawbacks, such as severe postoperative pain and frequent incidence of postoperative contralateral paresis. Since the spinothalamic tract is located anteriorly in the spinal cord, it seems logical to approach it through the vertebral body. However, it was not until 1964 that Cloward[9] proposed this approach.

Because the operation is performed at the bottom of a deep bony funnel, visualization of the spinal cord and division of the spinothalamic tract are difficult. Through the same approach, but using the operative microscope, Hardy, et al[10] performed selective microsurgical cordotomy in 10 cases which they reported in 1974. The procedure can be carried out with minimal blood loss. Postoperative discomfort is minimized, and early ambulation is permitted. The table (previous page) shows our results with this technique.

Because of minimal operative trauma, lack of postoperative paralysis, and reliable results in pain, we believe that this technique should be used more often to relieve intractable pain.

POSTERIOR FOSSA RHIZOTOMY

Dandy[11] had always advocated the division of the trigeminal nerve in the posterior fossa for the relief of "Tic Douloureux." However, in classical neurosurgery, posterior fossa surgery is considered as a major operation. Division of the fifth nerve near the brain stem is a risky procedure, and bleeding in this area may lead to severe complications.

Using the operative microscope[12], one can cut the trigeminal nerve through an enlarged burr hole behind the mastoid. Because of magnification and excellent illumination, one can avoid the blood vessels and postoperative bleeding and also divide selectively the main root of the nerve. This operation, therefore, is directed toward selective division of the pain fibers with preservation of the corneal reflex and light touch.

By adding the division of the glossopharyngeal nerve and the first three branches of the 10th nerve, the operation can be extended to relieve intractable pain secondary to carcinoma of the face and throat.

CONCLUSIONS

Treatment of the patient with chronic intractable pain remains a difficult problem. As stressed by Sweet[2], more research is needed in this field, and many improvements are yet to come. It is exceedingly important that each case be studied carefully before an operation is considered. With the procedures described in this paper, microsurgery has now assumed a significant place in the treatment of intractable pain.

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Evaluation Of PAS Statistics

Pitfalls Which May Lead To Unwarranted Conclusions Are Analyzed

By John R. Stuart, M.D.

Hospital-generated medical statistics have become a very important item in the planning and evaluation of health care. With more and more attention being given to the performance of doctors and hospitals and to the quality of medical care, the medical profession has been evaluating these data very closely.

Rhode Island state law has now decreed that medical statistics are public knowledge. Therefore, many state and government agencies, health departments, and third party payers are scrutinizing these data, and the news media have published data that they consider important or spectacular. Statistics in all fields must receive correct evaluation. Data must be collected, corrolated, analyzed, and presented with a minimum of error and without bias. Medical statistics are no exception to these generalities. The Professional Activities Study (PAS) of the Commission on Professional and Hospital Activities generates the largest set of hospital statistics. One hundred per cent of the short-stay acute general hospitals in Rhode Island subscribe to PAS. This, plus the fact that Rhode Island is served by only one Health Department, makes Rhode Island a unique state for the purposes of health care planning. Correct evaluation and interpretation of medical statistics is all important. Interested parties should be advised that medical statistics require professional evaluation and interpretation.

JOHN R. STUART, M.D., *Coordinator of Surgical Services, Roger Williams General Hospital.*

SOURCES OF ERROR

The purpose of this paper is to discuss some very basic, practical, and relatively uncomplicated pitfalls in the interpretation of medical statistics that can give the impression that a particular doctor or hospital is giving poor quality care while in reality the opposite may be true. The following are examples:

1) **Only 50 per cent of hospitalized patients have a rectal examination recorded on their charts. Comment:** There is general agreement that hospitalized patients require a complete physical examination, which includes a rectal examination.

Findings:

a) Certain categories of hospitalized patients do not have a rectal examination performed. Most physicians agree that patients with chest pain should not have a rectal examination initially. Psychiatric, orthopedic patients with body or leg casts, and eye patients usually do not have a rectal examination. A patient with an eye complaint would probably object to having a rectal performed.

b) Many times a rectal examination is performed but is not accounted for in the abstract. For example, the description of the patient's prostrate implies that a rectal was done, but such may not appear to be the

(Continued on next page)

case to the chart abstracter. Many times, when a consultant performs a rectal examination, the consultation must be read for this to be noted.

c) Finally, a rectal examination done by the attending physician may not appear on the chart. For example, it is customary for a gynecologist to do a pelvic and rectal as part of the bimanual examination. However, it has been noted many times that only the pelvic portion is recorded on the chart.

There is room for improvement, namely in that the physician should record a rectal examination if one is done in his office or in the hospital in the recent past. Patients with chest pain may have a rectal examination done at the time of discharge or during the admission. A physician who does not usually perform rectal examinations may seek consultation in this regard.

2) **Only 93 per cent of hospital admissions have an admission blood pressure recorded. Comment:** All patients admitted to the hospital should have a blood pressure determination as part of their admitting vital signs.

Findings:

a) Children under five years of age usually do not have an admitting blood pressure determination, as reliable readings are difficult to obtain in young patients.

b) Most hospitalized patients will have their blood pressure recorded several times: In the hospital emergency room, where a significant number of hospital admissions originate, the blood pressure may be taken by both nursing personnel and emergency room physicians; also the admitting nurse on the hospital floor will usually record the patient's blood pressure.

Many times the values obtained are not recorded in the proper place or are given to the attending physician as a verbal report. Also, blood pressures may vary significantly depending upon whether they are taken in the Emergency Room, on the admitting floor, or on the day following admission.

In general, however, the statistics do not take into account the fact that, with the exception of pediatric patients, blood pressures are recorded as part of the vital signs.

3) **Only 71 per cent of hospitalized patients have certain minimum laboratory work performed. Comment:** All hospitalized patents should have certain minimum laboratory work performed as it is a requirement of the Joint Commission on Accreditation of Hospitals (JCAH) and a matter of good medical care.

Findings:

a) In the past JCAH required that a complete blood count (CBC), urine examination, and VDRL (Venereal Disease Laboratories Serology) be done in all hospitalized patients. Very commonly VDRLs were not done on infants and young children. At the present time JCAH allows each hospital to set its own standards for minimum laboratory work. Pediatric patients may be included or excluded from VDRLs by the individual hospital.

b) Frequently a CBC or urine examination has been ordered, but the values do not appear on the patient's chart when the chart is abstracted. Other times the laboratory request slip is simply lost and the test must be reordered. Occasionally the patient expires or signs out of the hospital against advice before the tests can be done.

Most hospitals in fact require much more than the usual minimum laboratory work. At Roger Williams General Hospital CBC, urine, VDRL, multiple blood chemistries (SMA-12), and serum electrophoresis are carried out routinely.

4) **Some 74 per cent of patients with an elevated blood sugar do not have a recorded diagnosis of diabetes mellitus. Comment:** An abnormal blood sugar requires appropriate follow-up studies to determine if diabetes mellitus is present.

Findings:

a) A blood sugar is reported on the PAS abstract sheet as abnormal if only one point above or one point below the norms as determined by the patient's age and sex. At our hospital the abstracters have been requested to note the blood sugar as being abnormal only if 10 points above or below the norms.

b) Usually the blood for a blood sugar determination is drawn without note of recent food ingestion or of intravenous therapy.

c) In reviewing the charts it was commonly found that the patient may be a known

(Continued on page 172)

Editorials

COMBINED ADJUVANT CHEMOTHERAPY IN BREAST CANCER

A recent report by Bonadonna[1] and coworkers of Milan, Italy on adjuvant combination chemotherapy in operable breast cancer, which appeared in **The New England Journal of Medicine,** has attracted wide attention in both the lay and medical press. Holland[2] of the Mount Sinai School of Medicine, in an editorial in the same issue, characterized the report as of "monumental importance." He pointed out, incidentally, that the National Cancer Institute of the United States merits appreciation for its funding of the program and the implied recognition of the basic importance of international cooperation in cancer and other medical research. In the study prolonged cyclic combination chemotherapy with cyclophosphamide, methotrexate, and fluorouracil (CMF) was evaluated as adjuvant treatment with radical mastectomy in primary breast cancer with positive axillary lymph nodes. After 27 months of observation treatment failures had occurred in 24 per cent of 179 controls but in only 5.3 per cent of 207 patients given the combined therapy for up to 12 two week cycles alternating with two week rest periods.

This is the culmination of a number of studies on adjuvant and combination treatment dating back to 1951. In that year Skipper et al[3] reported on combinations of several antileukemic agents. Greenspan, also of the Mount Sinai Hospital, has been working in the field of drug combinations for twenty-five years[4], reporting on ovarian cancer in 1962 and in a series of papers on breast carcinoma from 1963 to 1972, the latter report being a classical paper summarizing a twelve-year experience with combination chemotherapy for advance mammary carcinoma. Greenspan concluded that, despite often dramatic initial regression, the long-term results were dismal, with less than 3 per cent of five year survivors.

Important clinical trials have apparently demonstrated that postoperative adjuvant chemotherapy in breast cancer can significantly lower the recurrence rate. The National Surgical Adjuvant Breast Project reported that serial administration of phenylalanine mustard (melphalan or L-PAM) reduced significantly the recurrence rate in premenopausal women with metastases to regional nodes.[5,6] Fisher and his group[6] found in postmenopausal women that those not receiving adjuvant chemotherapy (melphalan) had recurrences at a much earlier time than those receiving chemotherapy. The overall recurrence rate (i.e. for all age groups) was 22 per cent for those receiving surgery alone, as compared to 10 per cent for those treated with surgery plus chemotherapy.

What Bonadonna and his group accomplished, in fact, was a blending of three elements: 1. adjuvant chemotherapy, 2. combination chemotherapy, and 3. cyclic administration.

While Holland characterizes this work as a major advance in breast cancer therapy, certain cautions are in order, as the authors themselves are careful to point out. Among their conclusions are the following: 1. Patients having potentially curable breast cancer with positive axillary lymph nodes show a statistically significant reduction in recurrence rate during the first 27 months after radical mastectomy when treated with cyclic prolonged combination chemotherapy (with CMF). 2. Long-term treatment produces an acceptable rate and type of toxic manifestations. 3. Not enough time has elapsed to indicate whether the difference in the rate of recurrence can also affect the rate of survival. 4. The authors are not yet in a position to state with certainty that combination chemotherapy with CMF is superior to single agent treatment with melphalan or that the combination permits a decrease in the duration of treatment.

They are of the opinion that their results tend to support and extend the studies of Fisher. If they are confirmed on a long-term

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FRANCESCO RONCHESE, M.D.

Doctor Ronchese, a frequent contributor to this **Journal**, passed away on March 25 in his 84th year. His most recent contribution appeared in the March issue, which went to press shortly before his death. In our files we still hold several brief papers, which we shall publish posthumously.

Doctor Ronchese was an inveterate and frequent visitor to the Society's Medical Library, which he enriched not only with his presence, but also with gifts of a substantial number of gems from his personal library. Perhaps he had a premonition of death, as he made these gifts only in the recent past.

His urbane manner, gentle demeanor and kindness, and profoundly scholarly attributes were well known to colleagues and patients alike. He was a recognized authority in his chosen specialty of dermatology.

With Doctor Ronchese's passing both the **Journal** and the Library have lost something of special quality. He was in the true sense a gentleman and a scholar. We shall miss him.

Seebert J. Goldowsky, M.D.

COLOR ADDITIVES IN FOODS AND DRUGS

The color additive FD&C Red No. 2, called Amaranth, has recently been deleted from the federal government's certified list of approved color additives that may be used in foods and drugs. The enormity of the problem is demonstrated by the fact that over 687,168 pounds of FD&C Red have been produced annually. The maximum daily suggested dose per capita of this dye is estimated to be 17.7 mg. Red No. 2 is commonly found in soft drinks, candy, bakery goods, and ice cream. It was approved for use in this country in 1907. After 69 years, enough evidence has been accumulated by the Food and Drug Administration to declare that its safety is unproven and that it should be deleted. There is a question as to whether Red No. 2 may cause cancer and fetal abnormalities.

This action by the FDA raises distressing questions because of the vast amounts of other dyes used in our foods and drugs, which conceivably may not have been thoroughly studied before they were approved for general use. It is estimated that in the United States the maximum color additive ingested per capita per day is 53.5 mg. Virtually everyone ingests dye additives in his diet regularly.

FD&C Red No. 2 is one of a group of eleven dyes that were originally derived from coal tar. Other commonly used FDA approved dyes in this group are Red No. 3 (Erythrosine), Blue No. 1 (Brilliant Blue), Yellow No. 6 (Sunset Yellow), and Yellow No. 5 (Tartrazine). Prior to the recent FDA ruling, Yellow No. 5, Yellow No. 6, and Red No. 2 comprised 85 per cent of color additives used in foods.

Historically, color additives are known to have been used as far back as the first century of the common era, when Pliny the Elder, the Roman naturalist (23-79 A.D.), wrote that color additives were used in wine. Dye additives in foods and drugs have two main functions. The first is to give them a pleasant appearance, which in many cases imitates the color of natural foods and may thus make them more palatable. For example, yellow, green, or red may subconsciously be associated with peaches, apples, or strawberries. Thus, a bitter tasting medicine containing these dyes may be easier to take. The other main function of dyes is in color coding of medications, which serves as a means of identification of the drugs. For example, if a given pharmaceutical company adds a specific color to tablets of a certain drug, it is obvious that an error has been made if tablets of a different color have been dispensed.

Color coding of medications may also be helpful in medical history taking when it is important to identify a drug which a patient has been using. While there may be a need for such additives, it is best to keep their use to a minimum and appropriately to label products that contain them, so that users may avoid them if they so desire or must for medical reasons.

(Continued on page 174)

Guest Editorial

HOW MUCH ADDITIONAL FEDERAL INTERVENTION IN HEALTH INDUSTRY IS DESIRABLE?

We see where the AFL-CIO is promoting national health insurance with the argument that it will hold down the cost of medical care. Unless you understand what the union's social welfare experts are really driving at, the idea is preposterous. You don't reduce the cost of limited resource by pumping up demand for it with a Federally financed program.

The last time around on Federal insurance, Medicare and Medicaid in 1966 brought **a sharp rise in medical costs,** which jumped 16.6 points on the Consumer Price Index between 1965 and 1968, double the rate for all goods and services. In the absence of price controls, the kind of expansion of medical insurance the AFL-CIO has in mind would no doubt produce a similar result.

Which leads up to what the AFL-CIO seems to be really driving at, that national health insurance will give the Government the "leverage" to hold down medical costs. In other words, it will enable the Feds **to put the screws** to prices in the health industry and, by extension, to the take-home pay of doctors.

Now we don't know whether doctors are overpaid or underpaid, any more than we know whether plumbers are overpaid or underpaid. Some people resent the affluence of doctors, we're told. But then some people resent the affluence of plumbers. Those, however, are **subjective questions** not easily delt with through public policy.

But the AFL-CIO should consider that doctors and plumbers aren't all that much different in economic terms. Both have **strong national organizations** representing their interests. Both have **some measure of self-regulation** over entry into the professions, which, so their critics claim, has held up the price of their services.

So if the AFL-CIO wants the Feds to put the screws to the take-home pay of doctors, **we see no reason why it should make a distinction between doctors and plumbers.** Or, for that matter, carpenters, or toolmakers, or riggers. Why not put the screws to everyone who has a strong labor union that tends to restrict the supply of a vital service?

Now no doubt the AFL-CIO would find such an idea abhorrent. But if this is what it really means when it talks about Federal leverage to hold down medical costs, **this is where logic inevitably leads.** Before such logic carries it too far, the AFL-CIO might do well to reconsider how much additional Federal intervention in the health industry is really necessary or desirable.

. . . . From **The Wall Street Journal** of Aug. 8, 1975.

ALLERGIC REACTION INFORMATION SOUGHT

Again this year I am compiling a Biting Insect Summary and would appreciate any case reports of unusual allergic reactions, especially systemic (sneezing, wheezing, urticaria) to bites of insects; i.e., mosquitoes, fleas, gnats, kissing bugs, bedbugs, chiggers, black flies, horseflies, sandflies, deerflies, etc.

I would like physicians to supply me with case reports of those patients who have had unusual reactions to such insects. Include in your reports the type of reactions (immediate and delayed symptoms), treatment, the age, sex, and race of the patient, the site of the bite(s), the season of the year, and any other associated allergies.

If skin tests and hyposensitization were instituted, I would like the report of both. Please note that it is the biting (not stinging) insect in which I am interested.

If you have found any insect repellent, local treatment, or insecticides of value, I would also appreciate this.

Please send this information to the following address:

Claude A. Frazier, M.D.
4-C Doctors Park
Asheville, NC 28801

Editor's Mailbox

To the Editor:

I am writing in regard to the editorial "Whither Utilization Review?" published in the January, 1976 issue of the **Rhode Island Medical Journal.** It is unfortunate that an editorial was written with such a jaundiced view. One would have to review the entire evolution of the present utilization review system to be objective. Of course, the author of the editorial should know that, when he discusses PSRO, he is in fact discussing the role of physicians in their Health Care Review System, their intrinsically appropriate professional responsibility. Although the editorial tells us that the intermediary will be with us in some monitoring functions, many physicians feel strongly that the HEW Secretary's decision to have the PSRO monitored by the intermediary was unnecessary. While PSRO is not considered to be a bureaucratic blessing, it does nonetheless place utilization review and medical audit in the hands of physicians, where it belongs. Of course, one might conjecture that, had the intermediaries across the nation performed effectively and efficiently, there would have been no PSRO statute enacted. The function of the fiscal intermediary in the organizational gamut should be to determine eligibility and coverages and to make reimbursement payments. The review process can only be performed properly by an organization that has the knowledge and skill to utilize professionally developed criteria in a purely objective manner. The reason for the adoption of the PSRO statute by the Congress, as explained by Wallace Bennett, former Republican Senator from Utah, was to develop the best type of review possible. Because such review was not being performed to the satisfaction of the Congress, Section 249F of Public Law 92-603 creating the Pro fessional Standards Review Organization was passed.

I agree with many comments in the editorial. It should be pointed out that the major purpose of the PSRO program is to improve the quality of medical care. This is the prime objective of physicians involved in the program. The byproduct could also be that of cost containment. As we have repeatedly pointed out, a shortened length of stay does not necessarily imply quality medical care and in fact may have the opposite result. Perhaps there has already been excessive emphasis on this parameter. I am personally concerned about the overutilization and have suggested this point on several occasions long before the existence of the PSRO. I would suspect that one of the major abuses in the system is related to overutilization of ancillary services, which will be a great challenge to the review system. I believe that physicians should be concerned about this matter.

In a companion matter, the RIPSRO Board of Directors has endorsed a single review system along with other agencies in the state for all patients, so that hospitals will not be badgered by an army of agencies marching through their halls. Some of these agencies have little professional knowledge of the art and science of medicine and of the real hospital world. Their knowledge is the knowledge of the number and of the statistic, which they make march to their own cadence.

The author in the closing paragraphs of the editorial notes that the PSRO will prove to be much tougher and more emphatic than have been the reviewing agencies in the past. We believe that the PSRO will not be tougher, but more efficient and effective with physicians making the key decisions.

ALTON M. PAULL, M.D.
President,
R.I.P.S.R.O., Inc.

The editorial in question was not in any sense intended to express a jaundiced view of the future or potentialities of RIPSRO, but rather was a commentary on the federal way of regulation. In fact, we would wish RIPSRO every success. The purpose was to suggest that the federal bureaucracy does not readily yield powers or functions. It is the bureaucratic mode to simplify by multiplying. The concept intended was that HEW is no more likely to grant to the PSROs a greater degre of autonomy or freedom from close scrutiny than it has in the past to the intermediaries. We hope that this intuition proves to be overly pessimistic.

Ed.

Plan Now To Attend . . . .

THE ANNUAL MEETING

of the

Rhode Island Medical Society

WEDNESDAY, MAY 5, 1976

MARRIOTT INN

Providence, Rhode Island

BUSINESS MEETING 1:00 P.M.

SCIENTIFIC SESSION 2:00 P.M.

SOCIAL HOUR — 6:00 P.M.

DINNER — 7:00 P.M.

Music and Dancing during and after Dinner until 11:00 P.M.

Reservations close Monday, May 3, 1976

CALL 331-3207

FAT EMBOLISM AND THE RESPIRATORY DISTRESS SYNDROME

(Continued from page 161)

severe trauma, particularly when fat depots have been disrupted, such as with a fracture of bones containing large amounts of marrow. Improper immobilization of the fracture and the occurrence of hypovolemic shock are associated with a higher incidence of clinical fat embolism.

The principal clinical finding in symptomatic fat embolism is respiratory distress. This is due in the early period to mechanical blockage of the pulmonary capillary bed, but is more often the result of an inflammatory reaction caused by the presence of free fatty acids in the pulmonary capillaries. The resultant hemorrhagic pneumonia and atelectasis cause pulmonary venoarterial shunts, which result in hypoxemia. This hypoxemia is treated with oxygen and re-expansion of the atelectatic lung. If respiratory therapy and intermittent positive pressure breathing do not restore proper ventilation-perfusion relationships to relieve the pulmonary venoarterial shunt and the anoxemia, an endotracheal tube must be passed and mechanical ventiltion instituted. With proper respiratory care the great majority of patients with fat embolism survive.

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⚓ ⚓ ⚓

PRESIDENT'S PAGE

(Continued from page 150)

sent you and other Rhode Island physicians. The physicians on the Commission have performed excellently in coping with a most difficult problem.

Representing 1,300 physicians is **not** easy. Our greatest strength, independence, is also our greatest weakness. Everyone has his own point of view and is only too eager to enlighten his colleagues with a simplistic solution to a complex problem. I'm glad that you wrote, because it shows that you care, but your comments are unjustified, unwarranted, and undeserved.

⚓ ⚓ ⚓

EVALUATION OF PAS STATISTICS

(Continued from page 166)

diabetic, but the attending physician did not write this diagnosis on the face sheet. Many times the diabetic status was noted in the nurses' notes, in the notes of a consultant, or in the progress notes.

5) **Only 87 per cent of hospitalized patients receiving anticoagulants had had prothrombin or other coagulation tests ordered.** Comment: Patients given anticoagulants must be monitored by appropriate laboratory tests.

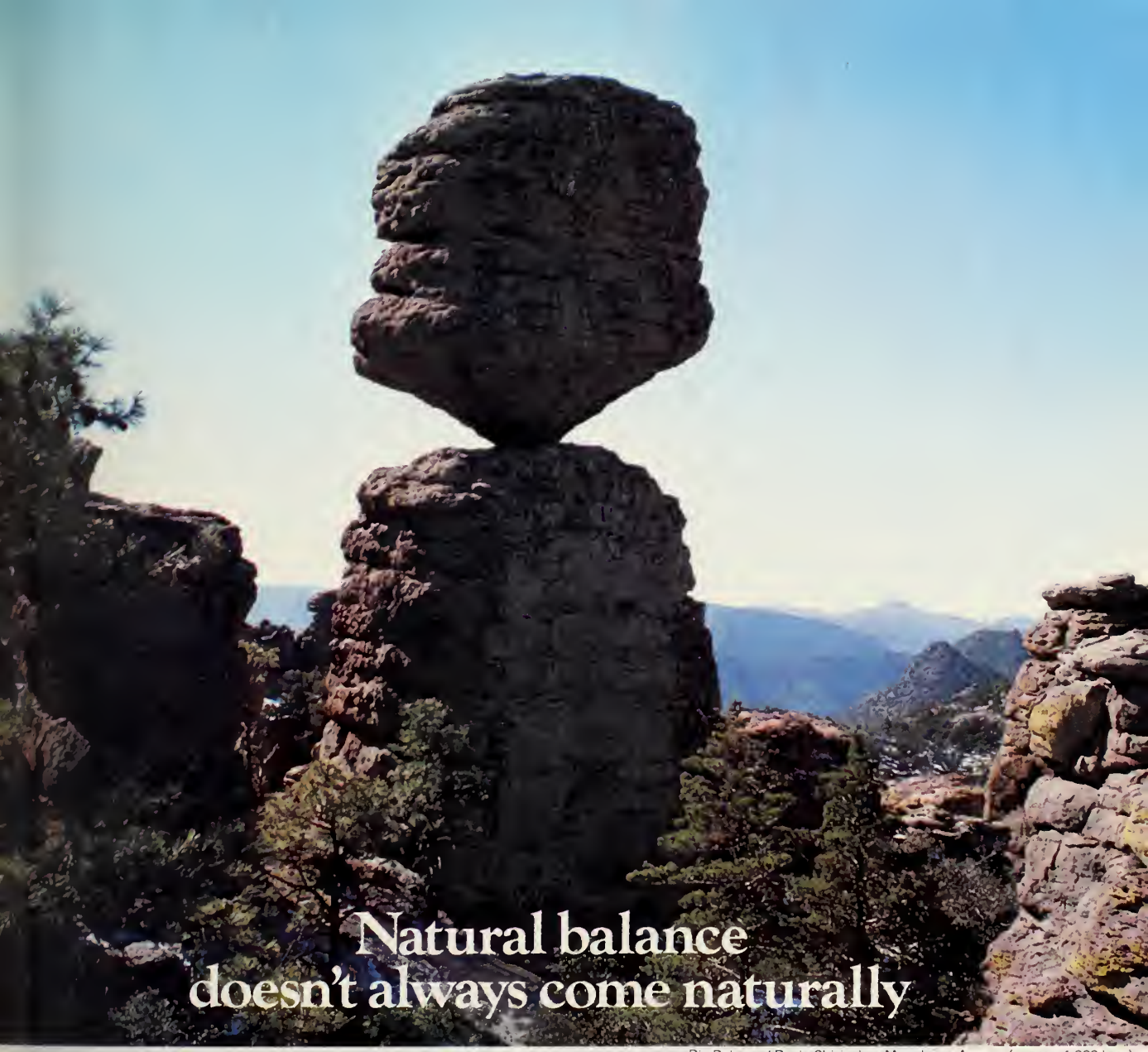
Findings:

The great majority of patients receiving anticoagulants without laboratory tests having been ordered were patients given the minimal dose of heparin necessasy to keep arterial lines from clotting. Other patients may have received one dose of heparin in an emergency situation for a possible pulmonary embolism without indication for further treatment. Again, as with blood sugar determination, the chart abstracters cannot make a medical decision. They have been instructed not to indicate anticoagulant therapy if heparin is used only for management of an arterial line. Many times this is a difficult decision for the medical abstracter to make, especially for the patient with multiple serious problems.

6) **Another group of statistics gathered by PAS relates to hospital length of stay.** This is computed for hospitals, for specific diseases, for operative procedures, and for the individual attending physicians. Thus, many different profiles are available for study. In evaluating these profiles, one should keep the following in mind:

a) Even though statistics are compared for matching hospitals (size, location, teach-

(Continued on page 173)



Big Balanced Rock, Chiricahua Mountains, Arizona (approx. 1,000 tons)

- Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
- Can relieve nausea and vomiting often associated with vertigo.*
- Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
- Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
- Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
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Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

Effectiveness across the spectrum of most common forms of insomnia

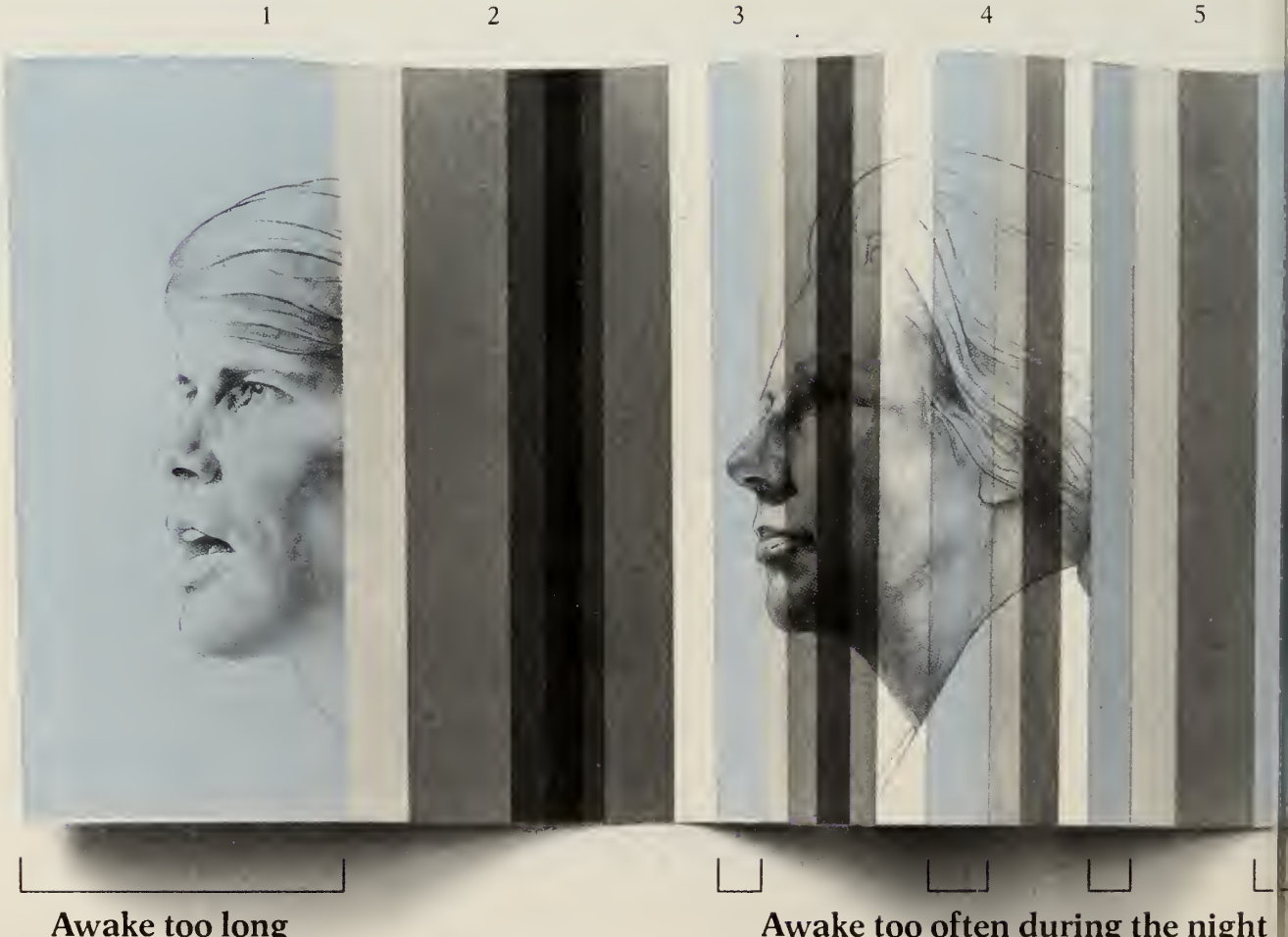
Awake too long, awake too often, awake too early...

These are the most common forms of insomnia, and may occur singly or in any combination. The night of troubled sleep depicted here comprises all three types. As the night progresses from left to right, each sleep stage is identifiable by its own shade of gray. Blue represents "Awake."

As you can see, this hypothetical "patient" takes well over an hour to fall asleep, awakens several times during the middle of the night and awakens too early in the morning.

Sleep Stages

- Awake
- REM
- Stage 1
- Stage 2
- Stage 3
- Stage 4



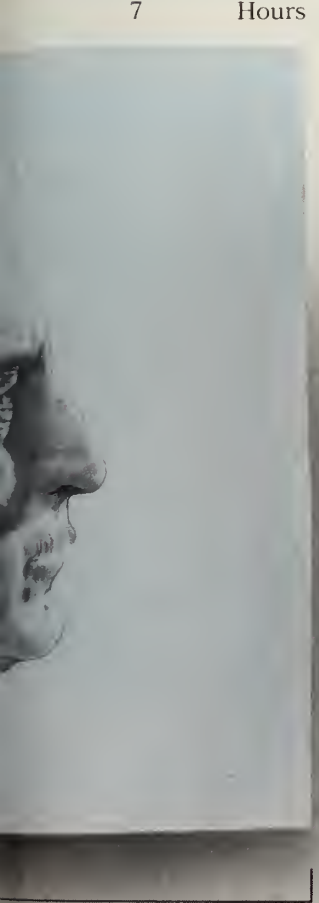
The insomnias most often occurring in young and older adults

For patients with trouble falling asleep (common in young adult insomnia patients), Dalmane (flurazepam HCl) 30 mg provides sleep within 17 minutes, on average. For those with trouble staying asleep or sleeping long enough (common in those over 50), Dalmane offers increased total sleep time with fewer nocturnal awakenings. These clinical results were demonstrated in studies conducted in four geographically separated sleep research laboratories![1-4]

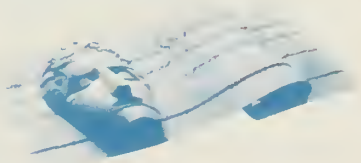
The relative safety of Dalmane (flurazepam HCl) is well documented

Dalmane (flurazepam HCl) is relatively safe and well tolerated; morning "hang-over" has been infrequent. The usual adult dosage is 30 mg; in elderly or debilitated patients, limit initial dosage to 15 mg to preclude over-sedation, dizziness or ataxia. Caution patients about possible combined effects with alcohol and other CNS depressants.

Broad-spectrum medication for the most common forms of insomnia



Awake too early



Dalmane®
(flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage (15 mg may suffice in some patients).
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

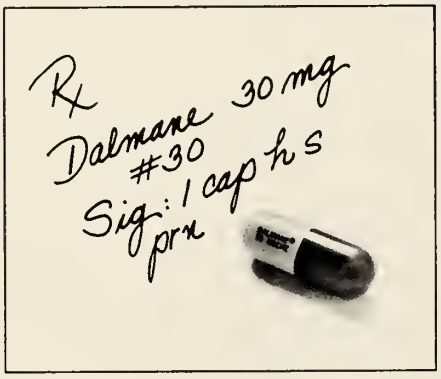
- □ induces sleep rapidly
- □ reduces nighttime awakenings
- □ lengthens total sleep time

ROCHE

Please see following page for a summary of complete product information.

Broad-spectrum medication for the most common forms of insomnia

Dalmane®
(flurazepam HCl) Ⓒ IV



Objectively proved in the sleep research laboratory, Dalmane

- □ induces sleep within 17 minutes, on average
- □ reduces nighttime awakenings
- □ provides 7 to 8 hours sleep, on average, without repeating dosage

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum benefic effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES:

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3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

ing or non-teaching, acute or chronic), there may be significant differences in hospital services available in individual hospitals. To avoid costly duplication of services hospitals may or may not have an emergency room, an obstetrical service, or a program in open-heart surgery; they may or may not care for patients with severe head injuries or complicated orthopedic problems; and they may not offer active physiotherapy.

b) Another problem concerning length of stay arises when a patient is transferred to another hospital service. For example, a patient may have surgery performed for a perforated duodenal ulcer and suffer a cardiovascular accident during the postoperative period. The patient will then be transferred to the medical service where the stay may exceed three or four weeks. At the time of discharge, the entire length of stay will be charged to the medcal service. Similarly, a problem may occur on the medical service with the patient spending much more time on the surgical service after transfer there for the medical problem for which he was admitted. Finally, it is not uncommon for a patient to have more than one service transfer.

c) The computer-assigned length of stay depends upon which diagnosis appears first on the discharge sheet. Usually the diagnosis responsible for the hospital stay should appear first. However, as in the case above, if a more serious illness occurs while the patient is hospitalized, this diagnosis may not be listed first. For example, a patient admitted for coronary insufficiency may develop a myocardial infarction. If coronary insufficiency is listed as the number one diagnosis, the computer may signify that this patient had a significantly prolonged hospital stay. However, if myocardial infarction is the number one diagnosis, his length of stay may well be within the norms, and no specific attention will be called to this hospitalization.

CONCLUSIONS

To insure good quality PAS output, the input must be accurate, the chart abstracter must have adequate training and adequate back-up so that charts are abstracted with minimum of delay. Quality input may also be monitored by spot checking of charts. However, good chart review is costly in terms of time and money. The chart abstracter should not be expected to make a medical decision. In order to reduce errors to the minimum, professional chart review with a large increase in costs would be required and is thus impractical.

Physicians must realize that the non-professionals who review and evaluate medi-

(Continued on next page)

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cal statistics do not see or know the patient as does the doctor. The only knowledge they have is from the chart of the PAS data. The doctor's knowledge of the patient will not be imparted to others if the doctor does not document the chart completely. He must recognize that there is no substitute for good chart documentation. He must treat the patient first and the chart second.

In this paper we have discussed basic uncomplicated problems that arise and may give erroneous impressions. More sophisticated and more complex studies also have built-in pitfalls, that seem to multiply in geometric proportion to the complexity of the study. Nonprofessionals who review and evaluate medical statistics should request and receive professional assistance.

COLOR ADDITIVES IN FOODS AND DRUGS

(Continued from page 168)

FD&C Yellow No. 5 (Tartrazine) has recently been implicated as a cause of adverse reactions. This dye, which is still on the FDA approved list, has been associated with nonthrombocytopenic purpura, urticaria/angioedema, and bronchospasm. Like Red No. 2, Tartrazine is commonly used in food products and drugs. Over 560,000 pounds of Tartrazine are sold annually, and there are over 594 drugs on the commercial market that contain it. Tartrazine, a coal tar derivative, has also been designated as an AZO compound, an aniline derivative, pyrazolone, and hyrdazine yellow. Most of the individuals who have experienced adverse reactions to Tartrazine also have symptoms of intolerance to aspirin, characterized by acute urticaria/angioedema, bronchospasm, or acute rhinorrhea. About 15-20 per cent of so-called aspirin intolerant individuals also have a sensitivity to Tartrazine. The symptoms produced by aspirin and Tartrazine are similar in these individuals, which tends to confirm the fact that these drugs cross-react. Isolated cases of Tartrazine sensitivity without aspirin intolerance, however, can occur. It is estimated that there are some 150,000 individuals in the United States who react adversely to Tartrazine.

As in the case of Red No. 2 and other dyes, the FDA does not require that manufacturers list the color additives on the packages or package inserts of these products. As a consequence, individuals who wish to or must avoid them are at an unwarranted disadvantage. To avoid all color additives, adherence to a red, green, and white diet is recommended: red for fresh meat, green for fresh vegetables and unadulterated fresh fruit, and white for fresh milk and colorless medicine tablets.

Guy A. Settipane, M.D.

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COMBINED ADJUVANT CHEMOTHERAPY IN BREAST CANCER

(Continued from page 167)

basis, the method will provide a rational and integrated approach to treatment of operable breast cancer with involved axillary lymph nodes.

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ONE SENTENCE ESSAY

There is no good writing, only good rewriting.

. . . Joseph Garland, M.D., late editor of **The New England Journal of Medicine.**

Report Of The House Of Delegates

A meeting of the House of Delegates of the Rhode Island Medical Society was held at the Medical Society auditorium in Providence on Wednesday, March 10, 1976. The meeting was called to order by the speaker of the House, Doctor Thomas F. Head, at 2:10 p.m.

Delegates in attendance were: Doctors Joseph R. Peltier, H. Gerald Rock, Charles B. Round, Edward Asprinio, Charles P. Shoemaker, David R. Hallmann, Richard Kuhn, Nathan Sonkin, Richard Kraemer, James Mc Grath, Louis Morrone, Erwin Siegmund, Francis Scarpaci, Leonard S. Staudinger, Stephen J. Hoye, Herbert F. Hager, Philip J. Morrison, Frank W. Sullivan, Orlando M. Armada, Alphonse R. Cardi, Joseph E. Caruolo, George E. Charon, George L. Copper, George Coleman, Dominic L. Coppolino, John E. Farley, Jr., Donald P. Fitzpatrick, Serafino Garella, Melvyn M. Gelch, Thomas F. Head, Charles L. Hill, Melvin D. Hoffman, William Klutz, Henry M. Litchman, Joseph P. Lombardozzi, Vincent I. MacAndrew, William J. MacDonald, Ermino Cardi substituting for Peter L. Mathieu, Jr., H. Raymond McKendall, Daniel Moore, Jr., Simon Blumen substituting for Raul Nodarse, Anthony Merlino substituting for Ralph R. Pike, James A. Reeves, Henry Robidoux, Richard P. Sexton, William Q. Sturner, Hugo Taussig, Richard L. Testa, Seebert J. Goldowsky, and Wilson F. Utter.

Delegates absent were: Doctors David Newhall, Peter Baute (excused), Jacobo J. Fijman, Oswaldo R. Velis, Richard Zuerner, Robert Burroughs, Robert Fortan, Paul J.M. Healey (excused), Patrick A. Levesque, Paul Calabresi, Frank G. DeLuca, John A. Dillon (excused), Milton W. Hamolsky (excused), Edward Iannuccilli, Robert Indeglia, Joseph B. May, and P. Joseph Pesare (excused).

Commissioners in attendance were: Doctors Leonard S. Staudinger, Thomas F. Head, Kenneth Liffmann, Joseph E. Caruolo, and Melvin Hoffman.

The Specialty Society representatives in

(Continued on next page)

Wherever you go, forget your telephone calls. We'll take them for you, day or night.

MEDICAL BUREAU
of the
Providence Medical Association

attendance were: Doctors Marshall Taylor, James Leach, Henry M. Litchman, Wilson F. Utter, Louis V. Sorrentino, William F. Varr, Arthur I. Geltzer, Charles Hill, Joseph E. Caruolo, David M. Barry, and Walter Cotter.

Specialty Society representatives absent were: Doctors Kenneth Nanian, Charles E. Millard (excused), James T. Kurtis, Richard Peters, Bencel L. Shiff, and Guy A. Settipane.

Also present were: Jim Clarkin, Tim Norbeck, and Mr. Joseph Shanley from the firm of Duffy & Shanley.

Approval of Minutes of Previous Meeting

The speaker noted that the minutes of the January meeting of the House had been printed and distributed by the secretary.

Action: A motion was made, seconded and voted that the minutes of the January 28, 1976 meeting of the House of Delegates be approved and placed on record.

Report of the Secretary

The speaker noted that the report of the secretary was included in the handbook.

1. President Hoye apprised the House of Delegates that the AMA dues were coming in at a slower rate than in 1975 and urged delegates to promote such membership at any local medical meetings.

Action: A motion was made, seconded and voted that the report of the secretary be approved and placed on record.

Report of the Treasurer

The speaker noted that the report of the treasurer was included in the handbook.

Action: A motion was made, seconded and voted that the report of the treasurer as submitted be approved and placed on file subject to audit.

Recommendations of the Council

The secretary submitted the recommendations from the Council, as published in the handbook for the meeting. Action was taken as follows:

1. **Blue Cross Board Members**

Action: A motion was made, seconded and voted that Doctors Joseph E. Caruolo and Herbert F. Hager be nominated as the Society's official representatives on the Blue Cross Board of Directors.

Following the nomination of Doctors Caruolo and Hager, the House of Delegates discussed the composition of the Blue Shield Board of Directors. The thrust of the discussion focused on whether or not the public should have increased representation on the Blue Shield Board so as to constitute 50 per cent of the voting members. It was brought out that throughout the country a number of Blue Shield plans provide for 50 per cent public representation on the Board of Directors and that state legislatures have been pressing for such public representation.

After lengthy discussion, the House of Delegates adopted the following resolution to be presented later in the afternoon to the Blue Shield Corporation: As a service to the community in 1945, the Rhode Island Medical Society initiated the existence of medical services insurance within the existing framework of the Hospital Service Corporation of Rhode Island, now known as Blue Cross. This physician service now affiliated with National Blue Cross has grown into an outstanding organization for the public good. Although the physician directors have predominated the membership of the Board of Directors since its inception, "the public interest" has always been its uppermost goal. The Medical Society, cognizant of the importance of the need for health maintenance and care, wishes to become an equal advocate of responsible management of our Rhode Island plan. By electing additional members from the public sector, we wish to create an equal partnership in Blue Shield, to work together to bring to the citizens of the state of Rhode Island, excellent health coverage.

2. **Use of the Social Security Number as a Universal Identification Number**

Action: A motion was made, seconded and voted that the Rhode Island Medical Society express total opposition to the use of the

(Continued on page 178)

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* * *

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* * *

Siddanna Anurshetru, M.D.
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* * *

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* * *

Anthony J. Raneri, M.D.
6603 Cooper Ridge Drive, No. 102
Baltimore, MD 21209
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* * *

Terrence J. Horrigan, M.D.
432 Hallmark Road
Fayetteville, NC 28303
Specialty: Obstetrics and Gynecology

* * *

Edward Salmon, M.D.
4343 Graham Drive
Pierrefonds, Quebec H9H 2B9 Canada
Specialty: Urology

* * *

Louis T. Feldgoise, M.D.
6441 Frenchmens Drive
Alexandria, VA 22312
Specialty: Ophthalmology

* * *

Abdul Malik Arain, M.D.
21 Hawthorne Woods
Deptford, NJ 08096
Specialty: Orthopedic Surgery

Paul Shales, M.D.
Waisman Center, 2605 Marsh Lane
University of Wisconsin
Madison, WI 53706
Specialty: Pediatrics

* * *

L. Mark Reiner, M.D.
801 Cooper Street, 133A
Woodbury, NJ 08096
Specialty: Internal Medicine

* * *

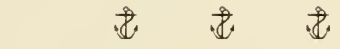
Thomas J. Joseph, M.D.
46 Brighton Drive
Gaithersburg, MD 20760
Specialty: Anatomic and Clinical Pathology

* * *

Robert W. Page, M.D.
3800 Parkdale Road
Cleveland Heights, OH 44121
Specialty: Neurology

* * *

Mark G. Strom, M.D.
3450-25 Wayne Avenue
Bronx, NY 10467
Specialty: Cardiothoracic Surgery



ONE SENTENCE ESSAY

It must be confessed that the manner in which the medical profession is regarded by the community at large is not such as in all respects to gratify our self-love, or to flatter our vanity.

. . . William Williams of Wellington, M.D., before the Massachusetts Medical Society, 1870.

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HOUSE OF DELEGATES

(Continued from page 176)

social security number as a universal number identifier and that the Society encourage all county societies, all PSRO's, all hospitals and other providers of medical care to oppose the use of the social security number as a universal number identifier. The House of Delegates also indicated its desire to notify Rhode Island PSRO, Inc. of this action.

3. **Slate of Officers and Standing Committees**

No counter nominations were offered to the slate of officers and standing committees proposed by the Council except to retain Doctor Mendell Robinson as a member of the Committee on Scientific Work and Annual Meeting and to replace him with a temporary chairman, namely Doctor Frank DeLuca.

4. **Interprofessional Code**

Action: A motion was made, seconded and voted to adopt the "Interprofessional Code of Standards of Practice Governing Lawyers and Physicians" as developed by the joint Liaison Committee of the Rhode Island Medical Society and the Rhode Island Bar Association.

Election of Three Physicians to the Professional Advisory Committee of Blue Shield

The speaker noted that the House is authorized under the By-laws of the Blue Shield Corporation to elect three physicians to serve for one year on the Professional Advisory Committee of that organization. He noted that the physicians whose terms are expiring are Doctors J. Robert Bowen, Joseph DiMase, and John P. Grady.

Action: A motion was made, seconded and voted that Doctors J. Robert Bowen, Joseph DiMase, and John P. Grady be elected to serve on the Professional Advisory Committee of Blue Shield for 1976.

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Reports of Committees

The speaker noted that there were several committee reports in the handbook for the information of the members, but none called for any specific action by the House.

Action: A motion was made, seconded and voted that the written reports of the following committees, as submitted to the House, be received and placed on record: Delivery of Medical Care Committee, Library Committee, and State Committee on Peer Review.

Doctor Joseph E. Caruolo, Commissioner, asked to make a verbal report on a recent meeting of the Perinatal Committee. Doctor Anderson, a member of this committee, reported that the AMA had recommended the formation of a Maternal and Perinatal Task Force in each state. He requested that the Rhode Island Medical Society participate with representatives of the various Academies and the State Health Department in the formation of a core task force.

Action: A motion was made, seconded and voted to designate Doctors Herbert F. Hager, George Anderson, and Bertram Buxton as Co-Chairman to participate with other organizations in the formation of such task force.

Resolution

The secretary presented a resolution as submitted to the House in the handbook for the meeting from Doctor Walter C. Cotter pertaining to a change in the law for medical licensures in the state of Rhode Island. The proposal for a change in the law was defeated, but the House voted to send a letter to the Board of Examiners in Medicine requesting their study of the problem and asking for any recommendations which might alleviate the problem.

New Business

President Hoye reported to the House of Delegates on the final meeting of the Governor's Commission on Malpractice which had been held on Monday, March 8. He reviewed in detail the Commission's working paper and pointed out that the Commission had been in session some eleven hours. Doctor Hoye reported that the Commission had agreed to

change the statute of limitations from three years from discovery to two years from occurrence while maintaining the right of a minor to bring suit up to the age of sixteen. An attempt to limit non-economic losses (pain and suffering) to $100,000 was unsuccessful. Physicians were successful at the commission level in eliminating the collateral source of payment. Doctor Hoye indicated that, in a close vote, the Commission refused to recommend the limitation on contingency fees and denied the periodic payments to consumers section. The ad damnum clause was eliminated, and a mediation panel comprised of two lawyers and one physician was approved for recommendation to the General Assembly. One of the two lawyers on the mediation panel must have experience in arbitration. A board of medical review will be established but will not come under the jurisdiction of the Department of Health. While physicians will still have to prove malice in bringing a successful countersuit, there will be sanctions on those who bring frivolous suits. Matters of informed consent and **res ipsa loquitur** will be determined by the court and will no longer be up to the jury. Broad Peer Review immunity is provided for in the final recommendations which will be made from the Commission to the General Assembly.

In a related manner, Doctor Melvyn Gelch urged 50 per cent representation of physicians on the Joint Underwriting Authority Board of Directors. The Board is presently comprised of eight insurance representatives and three physicians, and the House of Delegates agreed with Doctor Gelch that efforts should be made by the Society to secure 50 per cent representation.

Adjournment

The meeting was adjourned at 4:45 p.m.

Respectfully submitted,
CHARLES B. ROUND, M.D.
Secretary

DO YOU HAVE REAL ESTATE FOR SALE OR RENT?

Advertise in the R. I. Medical Journal
Support your Society publication.

Peripatetics

FRANCES P. CONKLIN has been cited for distinguished achievements and named a Fellow of the American College of Radiology. The College awarded Doctor Conklin a certificate of Fellowship during its Annual Meeting and Convention in Washington, D.C. in March.

* * *

KATHERINE K. CUTTS and the late NATHAN A. BOLOTOW are recent recipients of the Max L. Grant Foundation Award. This award is presented to members of the community who have made outstanding contributions through working with the United Way or an agency supported by the United Way. Doctor Bolotow's name was submitted by the Jewish Family and Children's Service, and Doctor Cutts' name was submitted by Homemaker-Home Health Services of R. I.

* * *

The following were appointed by Governor Noel to study the organization of services provided for patients at the Rhode Island Institute of Mental Health: MAURICE W. LAUFER, Director of Bradley Hospital; D. ROBERT FOWLER, psychiatrist at the Miriam Hospital; and DAVID S. GREER, Associate Dean of Medical Affairs at Brown University.

* * *

At its Annual Meeting, the Providence Medical Association elected DONALD P. FITZPATRICK to be its president. Also elected were: P. JOSEPH PESARE, vice-president; RICHARD L. TESTA, secretary; and CHARLES L. HILL, treasurer.

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Highlights Of 200 Years Of Medicine

Prepared by the AMA

Medical care in the American colonies in 1776 was a crude and primitive affair compared to today's highly developed health care system.

In fact, for many Americans, there just weren't any doctors at all, and home medicine was the only answer. Most of the nation lived in remote rural areas. The crisis was over — the patient either survived or died — before the doctor could arrive on horseback.

And if you did find a doctor, his knowledge and his tools and medicines were scant indeed compared to today's sophisticated and scientific medicine.

The doctor likely had never attended medical school and had no license to practice medicine. He didn't really know what caused most diseases and he didn't really know how to treat them.

The doctor's answer to disease in those days was likely to be to open a vein in the wrist and draw off a pint or two of blood . . . or a dose with a very strong emetic to induce vomiting . . . or a strong purgative to cleanse the bowels. Often the treatment did more harm than good.

The doctor didn't know about germs and how to prevent infection. Pasteur and Lister were still far in the future. He did know that innoculation against smallpox gave protection, and the Continental Army was well protected against this scourge.

The doctor had—sometimes—a few items to relieve pain — alcohol, opium, laudanum. He had no penicillin, no insulin, no vaccines, no anesthetics.

There were about as many doctors for the population two hundred years ago as there are today — one to 600. At the time of the Revolution there were around 3,500 legitimate medical practitioners in the thirteen colonies. Less than four hundred of these possessed medical degrees. Most had been trained under the apprentice system. A very few were products of European medical schools, or one of the two new American schools.

In colonial times, the aspiring physician apprenticed himself to an older doctor, served several years, and received from his mentor a certificate certifying his competence to practice medicine.

Surgery consisted largely of amputations of injured arms and legs. Many of the patients died of infection and loss of blood. The doctor had to get by without most of today's common medical tools — clinical thermometer, stethoscope, hypodermic syringe.

Colonial physicians used a variety of drugs when they could get them, such as "Jesuit's Bark," (quinine) for fevers, and they drew heavily on the native plants and shrubs. Knowledge of therapeutic plants, gained through generations of experimentation, was considerable, and could aid in relieving pain and in curing some diseases.

Fevers, smallpox and dysentery caused much of the illness. Life expectancy was short and the degenerative diseases of advancing years were a minor health problem for most Americans in 1776. Dirt and poorly cooked food and drink made dysentery a highly common health problem in the Continental Army. Influenza and pneumonia were common, thriving on poor ventilation, crowded conditions, dirt, and poor diet.

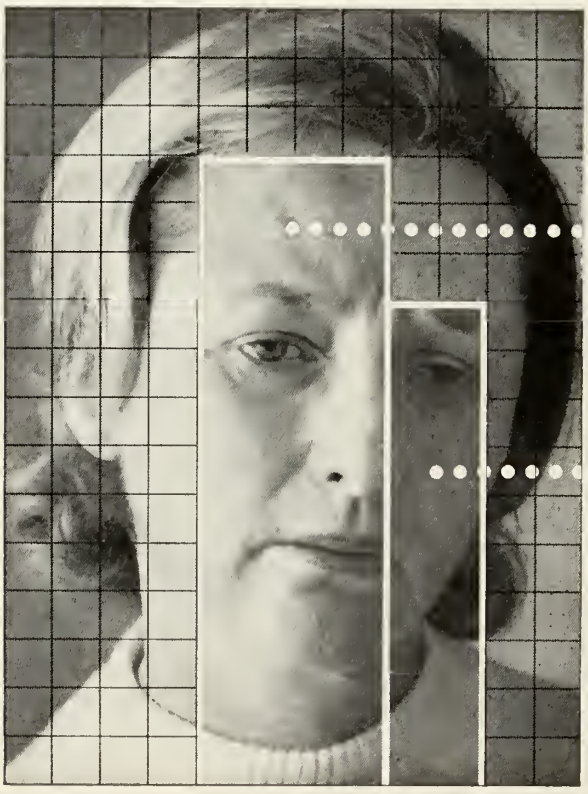
Despite their handicaps, American doctors did the best they could and their very presence was a great help to many sick individuals. The doctor was a prominent man in his community. Several doctors were among the signers of the Declaration of Independence: Josiah Bartlett of New Hampshire; Lyman Hall of Georgia; Benjamin Rush of Pennsylvania; Matthew Thornton of New Hampshire; and Oliver Wolcott of Connecticut. Others were members of the Continental or United States Congresses.

Rhode Island Medical Journal

May 1976 Vol. 59, No. 5

Special Brown University Issue

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequenc and/or severity of grand mal seizures ma require increased dosage of standard ant convulsant medication; abrupt withdrawa may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Kee addiction-prone individuals under carefu

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

MAY, 1976 VOLUME 59, No. 5

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COVER: The cover photo illustrates a basic tenet of Brown's approach to medical education: that "students should be exposed to the practice of medicine as it applies to most doctors and most patients, not just those who enter the rarefied atmosphere of the University hospital."* The medical student shown is working in a general hospital setting with Dr. Francis J. Cummings, Assistant Professor of Medical Science at Brown and Head of the Division of Oncology-Hematology at Roger Williams General Hospital.

*1974-5 Brown University Program in Medicine Annual Report.

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DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES
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CONTINUING MEDICAL EDUCATION CALENDAR

JUNE

1-2 EDUCATION IN THE VISUAL SCIENCES. Speakers will include: Dr. Karl Kupfer, Director, National Eye Institute; Dr. Bruce Spivey, Pacific Medical Center, San Francisco; Dr. Arthur Keaney, University of Louisville School of Medicine; Dr. Sidney Fox, New York University; and Dr. Stephen Podos, Mt. Sinai School of Medicine. The meeting will be held on the Brown University campus. Further information will soon be available, contact Mr. Maguire, 863-3231.

4-5 ISSUES IN THE PREVENTION OF SEXUAL PROBLEMS. Topics will include: Cross Cultural Perspectives in Prevention of Sexual Problems, Dr. Donald S. Marshall; Cultural Values and the Prevention of Sexual Dysfunctions, Dr. Joseph LoPiccolo; Atypical Sex Role Development: Strategy and Ethics of Prevention, Dr. Richard M. Green; and Deviant Patterns of Arousal in Sexual Offenders: Identification and Prevention, Dr. John Bancroft.

Also, The Role of Anti-Androgens in the Treatment of Sex Offenders, Dr. Paul Walker; Is Sex Education by Parents Preventative? Dr. Mary Calderone; Does Pornography Have a Preventative Role? Dr. Cody Wilson; Ethical Issues in the Prevention of Sexual Problems, Dr. Robert Kolodny, Butler Hospital, 333 Grotto Avenue, Providence. For information, contact the Hospital Public Relations Office, 521-3400.

11 DELAYED AND PRECOCIOUS ADOLESCENCE. Maria I. New, M.D., Head, Division of Pediatric Endocrinology; Professor and Vice-Chairman, Department of Pediatrics; Director, Pediatric Clinical Research Center, New York Hospital-Cornell Medical Center. 10:30 AM, Kay Auditorium, Roger Williams General Hospital.

12 CORONARY ARTERY SURGERY. W. Gerald Austen, M.D., Edward D. Churchill Professor of Surgery, Harvard Medical School; Chief, Surgical Services, Massachusetts General Hospital, Boston. 10:00 AM, George Auditorium, Rhode Island Hospital.

NEWSLETTER . . . May, 1976

THE RHODE ISLAND MEDICAL SOCIETY

NEW OFFICERS INSTALLED AT ANNUAL MEETING

The installation of officers of the Rhode Island Medical Society for 1976-1977 was conducted at the Annual Meeting on Wednesday, May 5, 1976.

Doctor Herbert F. Hager, a resident of Edgewood, was installed as the 117th President of the Rhode Island Medical Society. Doctor Hager succeeds Doctor Stephen J. Hoye, Surgeon-in-Chief of the Memorial Hospital in Pawtucket. Named as President-Elect was Doctor Thomas F. Head, a Providence specialist in obstetrics and gynecology, who was past Speaker of the House of Delegates of the Rhode Island Medical Society.

Doctor John E. Carey was named Vice President. He is a resident of Newport and a specialist in obstetrics and gynecology. Re-elected as Secretary was Doctor Charles B. Round; and Doctor Frank W. Sullivan, a Cranston psychiatrist, was re-elected Treasurer.

Doctor Herbert F. Hager practices Internal Medicine in Providence. A native of Providence, he was graduated from Bates College in Lewiston, Maine in 1937, and he was awarded his doctorate of medicine, cum laude, from Tufts University School of Medicine in Boston in 1941. He served an internship at Rhode Island Hospital in 1941-42, received a Master of Public Health Degree from Columbia University in 1946, and served a residency at Rhode Island Hospital in 1946-47.

The new president is on the staff of Rhode Island Hospital and Women & Infants Hospital, the Courtesy Staff of Roger Williams General Hospital and Butler Hospital, and the Associate Staff of Miriam Hospital.

(Continued on next page)

HERBERT F. HAGER, M.D.
President

CHAPIN ORATOR FROM MGH

WILLIAM H. HARRIS, M.D.
1976 Chapin Orator

William H. Harris, M.D., Chief, Hip and Implant Surgery Unit, Massachusetts General Hospital, delivered the 35th Charles V. Chapin Oration at the 165th Annual Scientific Assembly of the Rhode Island Medical Society, Wednesday, May 5, 1976 at the Marriott Inn, Providence, Rhode Island.

Doctor Harris discussed "Detection and Prevention of Thromboembolic Disease." The Chapin Orator is a graduate of Harvard College and the University of Pennsylvania School of Medicine where he attained his doctorate in medicine in 1951. He interned at the Hospital of the University of Pennsylvania, and his medical training includes work at the Children's Medical Center and the Massachusetts General Hospital as well. In addition to being the Chief of the Hip and Implant Unit, Department of Orthopaedic Surgery of Massachusetts General Hospital, Doctor Harris is currently a Clinical Professor of Orthopaedic Surgery at Harvard Medical School and Senior Lecturer at the Massachusetts Institute of Technology.

Among the Fellowships and Awards received by Doctor Harris are Sprague Foundation Fellow 1960-61, Fellow of the Medical Foundation of Boston 1961-64, Traveling Fellow of the American Orthopaedic Association 1965, and Kappa Delta Award for Outstanding Orthopaedic Research 1970. Doctor Harris has published over 70 scientific articles in the past 20 years. He is a member of a number of medical organizations and is the founding member and first president of The Hip Society.

THOMAS F. HEAD, M.D.
President-elect

In addition, Doctor Hager has long been active in local and state medical associations. He has served on the Board of Trustees of the Medical Care and Education Foundation, and the Board of Directors of Blue Cross and Blue Shield. In 1974-75, Doctor Hager was President of the Rhode Island Society of Internal Medicine, and from 1973-75 served as Speaker of the House of Delegates of the Rhode Island Medical Society.

Doctor Carey Elected Vice President

Doctor John E. Carey, now a resident of Newport, is a native of Buffalo, New York. He earned his bachelor of science degree from Georgetown University in 1935 and his doctorate in medicine from the same university in 1939. After serving his internship at Millard Fillmore Hospital in Buffalo and his residency at the Rosewall Park Cancer Institute in the same city, Doctor Carey fulfilled his military obligation as a flight surgeon in the U.S. Navy during World War II.

JOHN E. CAREY, M.D.
Vice President

In addition to being a director of the Newport National Bank, the new Vice President is a Fellow of the American College of Surgeons and of the American College of Obstetrics and Gynecology. He is a past president of the Newport Medical Society and is currently on the staff of Newport Hospital.

Doctor Head is President-elect

Doctor Thomas F. Head is a native of Providence, a graduate of LaSalle Academy, and of Providence College, cum laude. After being awarded his medical degree from Jefferson Medical College in Philadelphia in 1949, he served an internship at St. Joseph's Hospital and a residency at Margaret Hague Maternity Hospital, Jersey City, New Jersey and its affiliated service at the University of North Carolina.

Certified by the American Board of Obstetrics and Gynecology, Doctor Head also holds fellowship in the American College of Surgeons, in addition to his membership in the American Medical Association and local medical societies. Doctor Head is a former president of the Providence Medical Association and a former Speaker of the House of Delegates of the Rhode Island Medical Society. He has also served as a member of the Board of Directors of Physician Service, and as a member of the Liaison Committee with Brown University, Nursing, Public Laws, plus a number of other committees of the state medical society.

The president-elect is a past president of St. Joseph's Hospital Staff Association where he is a member of the obstetrical gynecological staff. He is also on the staff of Women & Infants Hospital.

CHARLES B. ROUND, M.D.
Secretary

Doctor Round is Re-elected Secretary

Doctor Round, Chief of Surgery at Kent County Memorial Hospital, is a native of Washington, D.C. and attended elementary schools in the Providence area. He was graduated from Brown University in 1930 and was awarded his doctorate of medicine degree from Harvard Medical School in 1942. His postgraduate work includes: Clinical obstetrics at Boston Lying-In, review courses at the Harvard Medical School in medicine and surgery, and work at the Mallory Institute of Pathology.

He served an internship at Rhode Is-

FRANK W. SULLIVAN, M.D.
Treasurer

land Hospital, a surgical residency at Middlesex County Sanatorium in Waltham, Massachusetts, and a residency at Cushing General Hospital in Framingham.

Doctor Round was an associate surgeon at Rhode Island Hospital from 1951-1970 and is currently a consultant surgeon at that hospital. The re-elected secretary is also a courtesy surgical staff member at Roger Williams General Hospital.

He was the President of the Rhode Island Chapter of the American College of Surgeons and is a governor of the American College of Surgeons.

Doctor Sullivan is Re-elected Treasurer

Doctor Frank W. Sullivan, re-elected as treasurer, is a native of Texas. He attended elementary schools in Seattle, Washington, and was graduated from the University of Washington in 1957. He was awarded his doctorate of medicine from that institution in 1961. He served his internship at the Mary Imogene Bassett Hospital in Cooperstown, New York, and a residency at the Institute of the Living, Hartford, Connecticut. He holds staff appointments at Rhode Island Hospital and Butler Hospital. Doctor Sullivan is also an Assistant Clinical Professor at the Brown University Medical School.

The Treasurer has served as the Commissioner on Public Health for the Rhode Island Medical Society and is a member of the Executive Committee of the Providence Medical Association. Doctor Sullivan also serves as a member of the House of Delegates of the Rhode Island Medical Society. He has been appointed Chairman of the Commission on Standards and Third Party Payment for the American Psychiatric Association and is a member of the Board of Directors of RIPSRO, Inc.

Standing Committee Chairmen

Renamed chairmen of the major standing committees elected by the House of Delegates were: Doctor Thomas Perry, Library; Doctor Kenneth Liffman, Medical Economics; Doctor F. Bruno Agnelli, Public Laws; Doctor John F.W. Gilman, Publica-

(Continued on next page)

INTERPROFESSIONAL CODE

For Standards of Practice Governing Lawyers and Physicians by and between the Rhode Island Bar Association and the Rhode Island Medical Society.

PREAMBLE

Acknowledging that a substantial part of the practice of law and medicine is concerned with the problems of persons in need of the combined service of a lawyer and physician; and that the public interest and individual problems in these circumstances are best served only as a result of standardized cooperative efforts of all concerned; we the members of the Rhode Island Bar Association and the Rhode Island Medical Society do adopt the following declaration of principles as standards of proper conduct for lawyers and physicians subject always to the rules of law and standards of legal and medical ethics prescribed for their individual professional conduct.

I. Physicians' Fees for Diagnosis and Treatment

a. It is recognized that a physician's fee for professional services rendered to a patient-client is the sole legal obligation of the patient-client and independent of any litigation.

Lawyers should do their utmost to protect the bills of physicians for professional medical services rendered to a patient-client in cases where claims for medical disability are the subject of litigation. Lawyers should advise the patient-client that the bills rendered for such medical service by a physician is the sole responsibility of the patient-client and that said bills are due and payable when rendered in accordance with the ordinary practice of the particular physician.

The authorization form No. 10D should be obtained either by the physician or the lawyer (whomever is first consulted). This form is to be prepared in triplicate and distributed as indicated thereon.

"I hereby authorize my attorney, John Doe, Esquire, to pay out of the proceeds of settlement or trial, any proper unpaid charges for treatment or professional medical services made necessary by the injuries sustained in the accident or incident giving rise to the claim in question, although I fully recognize that it is my obligation to pay such charges regardless of disposition of the claim. The payment for medical services rendered by a physician is not related in any manner to the amount of the settlement, the time of the settlement, or the outcome of the litigation. Bills for medical services rendered are due and payable in accordance with the ordinary practice of the particular physician. I hereby authorize my physician, Robert Doe, M.D., to provide my attorney hereinbefore mentioned with any information and reports that he may request with regard to the treatment or professional-medical services made necessary by the injuries sustained in the accident or incident giving rise to the claim in question."

b. Payment for medical services rendered to the patient should be made by the lawyer, when he is authorized to do so by the patient-client out of settlement proceeds.

c. It is recognized that contingent fees are unethical in the medical profession, and payment for professional services rendered by a physician are not related to the amount of the settlement or judgment.

II. Medical Reports

a. The physician should render a report within a reasonable time after receiving a request for it. In no instance should the physician render a report to or confer with any party or his representative without due authorization.

b. The charge, if any, for a medical report should be commensurate with the work involved in preparing the report and will depend on the information requested. The charge for a basic factual report should not exceed the charge for an original examination. The charge for a copy of a report already submitted or of records should be only for clerical services.

c. Charges for reports and consultations with attorneys are proper costs of legal proceedings as distinguished from medical services rendered to patients-clients and any bills for such reports and consultations should be directed to the

(Continued on next page)

Fiske Fund Awardees

CHARLES E. MILLARD, M.D.
Fiske Fund Winner

Doctor Charles E. Millard, Instructor, Department of Medicine, Division of Family Practice, Brown University and University of Massachusetts at Worcester and Attending Physician, Rhode Island Hospital, has been named as the winner of the 1975 Caleb Fiske Fund Essay competition. Announcement of the award was made by Doctor Stephen J. Hoye, President of the Rhode Island Medical Society and Chairman of the Trustees of the Fiske Fund. This year's topic was "Rhode Island Medicine in the American Revolution." John E. Farrell, Sc.D. and John F.W. Gilman, M.D. received honorable mention awards for their entries in the competition.

Doctor Millard is a resident of Warren and a native Rhode Islander. After completing his undergraduate work at Western Maryland College in Westminster, Maryland and George Washington University in Washington, D.C., he was awarded his doctorate in medicine, cum laude, from Georgetown University School of Medicine in 1942. His postgraduate work includes an internship at St. Vincent's Hospital in Erie, Pennsylvania and training in anesthesiology at Nichols General Hospital in Louisville, Kentucky.

After 17 years of solo General Practice in Warren, Doctor Millard became the founder and only president of the Medical Associates of Bristol County in 1963 and continues to hold that position currently.

Doctor Millard has published over 20 articles in state, national, and international medical journals.

Code

lawyer who will pay charges promptly if they are legal and not medical expenses. In no instance should such charges or payments be related to or contingent upon the judgment or settlement of the claim in question.

d. Where the report is requested by someone other than the patient-client, or the patient-clients' attorney, the physician should insist upon the written authorization from the patient-client before giving the information or the report, and his charge for such a report should be in an amount to be agreed upon between him and the person seeking that report.

III. Opinion and Court Testimony

a. An attending physician has a duty to render a report, confer with counsel, give depositions and attend court to testify in litigation involving the patient-client.

b. The charges for consultations, conferences, and pre-trial interrogatories, written opinions, depositions and for testimony in court should be based upon the professional status of the physician, his specialty training and qualifications, his experience in the field in which he has been consulted and the time consumed in the preparation and in court appearances.

c. Charges for consultations, conferences, pre-trial interrogatories, written opinions, depositions and testimony in court are proper costs of legal proceedings as distinguished from fees for medical services rendered to the patient-client and any bills for such consultations, depositions, conferences, interrogatories, and court testimony should be directed to the attorney who should pay such charges promptly since they are legal and not medical expenses and in no instances should such charges or payments be related to or contingent upon the judgment or settlement of the claim in question.

d. The physician should be prepared to testify in detail as to the medical facts in the case and to state his opinions honestly, directly, and frankly when they are called for, without regard to their influence upon the course of the legal proceedings. Technical and medical terms should be avoided as far as possible and when used should be carefully explained in simple terms.

e. The lawyer and physician are professional men deserving of each other's respect and courtesy in and out of the courtroom.

f. In the courtroom the established rules of evidence give ample opportunity to test the competence and credibility of the physician.

IV. Facilitation of Court Appearances

a. Physicians should recognize that delays, postponements and cancellations of trials are inherent in the process of the law.

b. Lawyers should recognize that it is often difficult if not impossible for a physician to appear at a certain time and place without prior notice, without detriment to other patients of the physician.

c. Physicians and lawyers should cooperate in setting time for the appearance of the physicians in court and lawyers should ask the judge to expedite the appearance of the physicians so that the physicians may loose as little time as possible to the prejudice of their other patients, always subject of course to the court's requirements.

V. Subpoenas

a. When it appears advisable to serve a subpoena on a physician, the lawyer should first discuss the reasons with the physicians and arrange a suitable time and place for the service thereof.

VI. Violations and Complaints

a. Any complaint involving relations between physicians and lawyers should be filed in writing with the appropriate committee of the Rhode Island Bar Association or the Rhode Island Medical Society.

New Officers

(*Continued from Page 3*)

tions; and Doctor George F. Monahan, Jr., Occupational Health.

Doctor Frank G. DeLuca was appointed to serve as the temporary chairman of the Scientific Work and Annual Meeting Committee.

Doctor Leonard S. Staudinger was named Speaker of the House of Delegates and Doctor Charles P. Shoemaker, Jr. was elected Vice Speaker.

BROWN UNIVERSITY
DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES
Providence, Rhode Island 02912
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A Message from the Dean

OUR NEW MEDICAL COLLEAGUES

The past five years have witnessed an accumulation of conflicting predictions and expectations, variously glowing or dire, regarding the merits of a medical school at Brown University; and the inspired oratories, for and against establishment of a medical education program in Rhode Island, are as nothing when compared with the realities of the final product of this program.

On June 7 of this year we will see sixty Brown University medical students enter the ranks of our profession. They are the second cohort to graduate in recent years; and while it is hard to regard the second medical graduation at Brown as constituting a tradition (convention would demand the sequence of at least five or six similar events at yearly intervals to justify the designation of **tradition**) yet there are certain inescapably common features to these two classes.

These two graduating groups appear to be fulfilling the stated expectations which have been jointly expressed by the community of Rhode Island as well as the medical faculty and administration at Brown University:

1. To graduate about sixty physicians each year. (One hundred and eighteen physicians will have been graduated by this June.)
2. To graduate well-trained physicians. (Both classes have performed significantly above the national mean as determined by such objective criteria as the National Board of Medical Examiners tests. Both classes have been awarded excellent internships attesting to the competency of the graduates and the national acceptance of the Brown Medical Program.)
3. To create a program in medical education designed to encourage the pursuit of primary medical care with no accompanying reduction in the academic standards established at Brown. (The overwhelming majority of our 118 graduates have stated that they plan to enter those fields of medicine characterized by direct patient contact; indeed their choices of residency training programs tend to verify this.)
4. To undertake the necessary undergraduate clinical education in those Rhode Island health care institutions willing to participate in the education of physicians thus to avoid the need for a University hospital.
5. To increase the number of Rhode Is-

(Continued on next page)

landers matriculating in American medical schools. (It is estimated that about 50 per cent of all Rhode Islanders admitted to, or studying in, American medical schools are presently enrolled, or are about to enroll, in the Brown medical school.)

6. To create a pool of skilled physicians who will ultimately practice medicine in the state of Rhode Island. (While it is premature to predict the ultimate geographic sites of practice for our graduates, it should be pointed out that about one-third of all Brown medical school graduates are or will be taking their residency training in the hospitals of Rhode Island.)

The Brown University Program in Medicine is a flourishing enterprise truly nurtured by numerous groups in the public and private sector of Rhode Island. On the occasion of this second graduation, there is a deep sense of pride and satisfaction which we may all justifiably share.

STANLEY M. ARONSON, M.D.
Dean of Medical Affairs
Brown University

To all Physicians and Surgeons with Professional Liability Coverage in the Joint Underwriting Association (JUA)

A large majority of the physicians and surgeons insured in the MMJUA of R. I. will find their policies are coming up for renewal June 30, 1976 or some date shortly thereafter.

A new application will be required before the renewal date. Questions concerning past education and training not essential to proper coding will be omitted. This application must be returned to your insurance agent together with a check for at least 50% of the annual premium prior to renewal date in order to avoid a lapse in coverage.

The MMJUA has hired an independent actuary to help promulgate the renewal data. At the time of this writing, the renewal rates have not been set. The check for the premium to accompany the application will be accepted if it is at least 50% of the insurance premium on the expiring policy. There will be no Stabilization Reserve Fund payment on renewal policies.

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Attn: Professional Services

Invocation

*By Rev. Joseph L. Lennon, O.P.**

O Lord of healers and of healing, we ask you to endow physicians with a wholesome sense of humor. Rightly or wrongly, they have been accused of taking themselves too seriously, of being depressingly solemn. This may be, O Lord, because life is no joke to those who deal daily with the stark reality of pain. Physical suffering strips a man of his pretenses and make-believe. It reveals the frailty, the vulnerability, indeed, the ugliness of pain unsanctified and cursed.

Help doctors acquire the knack, O Lord, of detecting what is noble and uplifting in the human spirit so that their patients may be encouraged to search for meaning in their bodily distress and thus attain the vision of Job on the dung heap. As they witness the best and the worst in the human condition, may they be more inspired by the beauty of heroism in suffering than repelled by the misery of suffering, unaccepted and reviled.

Let them be persuaded, O Lord, that a doctor's smile is good medicine, that a cheerful word routs the gloom of illness, that a happy face is part of an attractive bedside manner. Conscious that cheerful patients resist disease better than gloomy Guses, may physicians convince their clients of the wisdom in the adage: the surly bird catches the germ.

Mindful, O Lord, that the lot of the M.D.'s spouse can be hard, that it is fraught with untold stresses and strains, grant the doctor's wife the ability to laugh things off as a prophylactic against cutting out paper dolls, an antidote to loneliness and a defense against her husband's professional pre-occupation.

Indeed, it would be a good idea for all of us here present to pray every day:

Give me a sense of humor, Lord
Give me the grace to see a joke
To get some pleasure out of life
And to pass it on to other folk.

*Vice President for Community Affairs, Providence College. Delivered at the 165th Annual Scientific Assembly of the Rhode Island Medical Society on May 5, 1976.

Peripatetics

VICTOR W. LEE, of the Miriam Hospital Nuclear Medicine staff, was married on February 11, to Doctor Maisie Tam. After a honeymoon in Hawaii, the couple returned to New York where a reception was held. The entire staff of the Division of Nuclear Medicine attended the wedding reception at Tom's Shangri-La Restaurant in New York City on February 28. A twelve-course dinner with champagne and tea was served.

* * *

Among 17 persons to be inducted into the Rhode Island Heritage Hall of Fame this year is ANTHONY CORVESE, veteran physician and first Italo-American to intern at Rhode Island Hospital. He was instrumental in organizing the first free children's dental clinic. He established a gynecological and surgical clinic at the House of the Good Shepard and pioneered in the use of spinal anesthesia.

* * *

DARIO HERRERA and DUGALD MUNRO were among a group of local doctors who participated in a jogging relay across Rhode Island to help kick off the 1976 Rhode Island Heart Association fund-raising drive.

* * *

MARVIN KERZNER recently addressed a crowd of 200 at a community program on the topic of Hypertension. This program was a part of a series of health care programs for the community which are being sponsored by The Miriam Hospital.

* * *

BENCEL L. SCHIFF recently received the Physicians Recognition Award from the AMA. In addition, Doctor Schiff was promoted to Full Professor of Medicine at Brown University effective July 1, 1976.

* * *

After five years as Medical Director for General Electric in Rhode Island, GEORGE F. MONAHAN has accepted an appointment as Corporate Medical Director for The Foxboro Company in Foxboro, Massachusetts.

(Continued on page 250)

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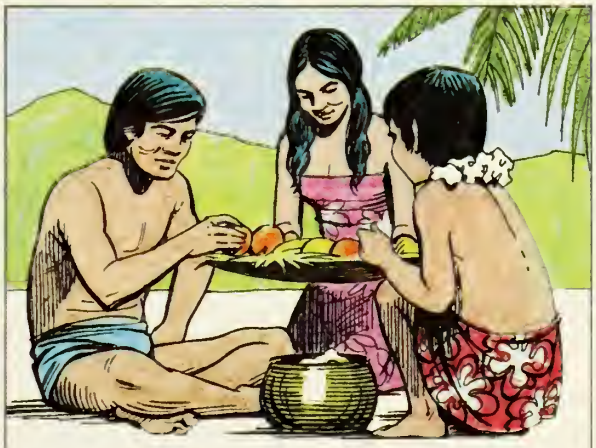
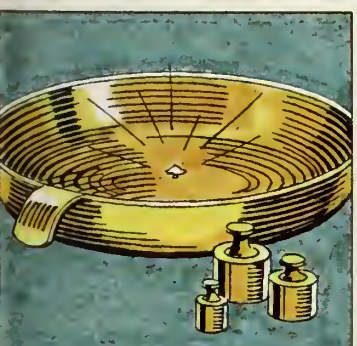
Hippocrates was probably the first person to observe and record the symptoms of scurvy. In about 400 B.C. he wrote that he was perplexed by the large number of soldiers suffering from gangrene of the gums.



People in more primitive, less commercialized societies often eat better balanced diets than affluent Americans. These natives instinctively choose nourishing foods because their bodies tell them what they need. The dietary habits of Americans are often influenced by television commercials that appeal to our wants instead of our needs.



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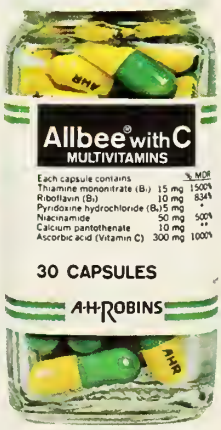

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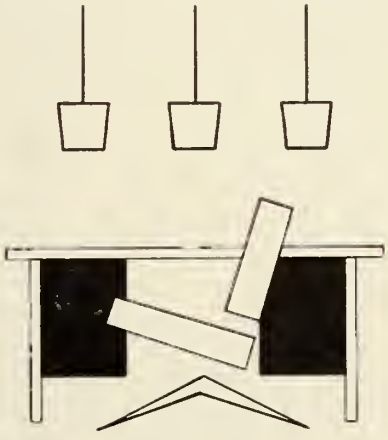

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the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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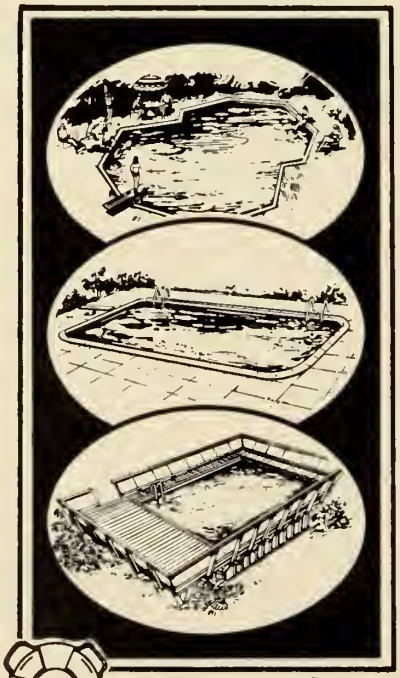

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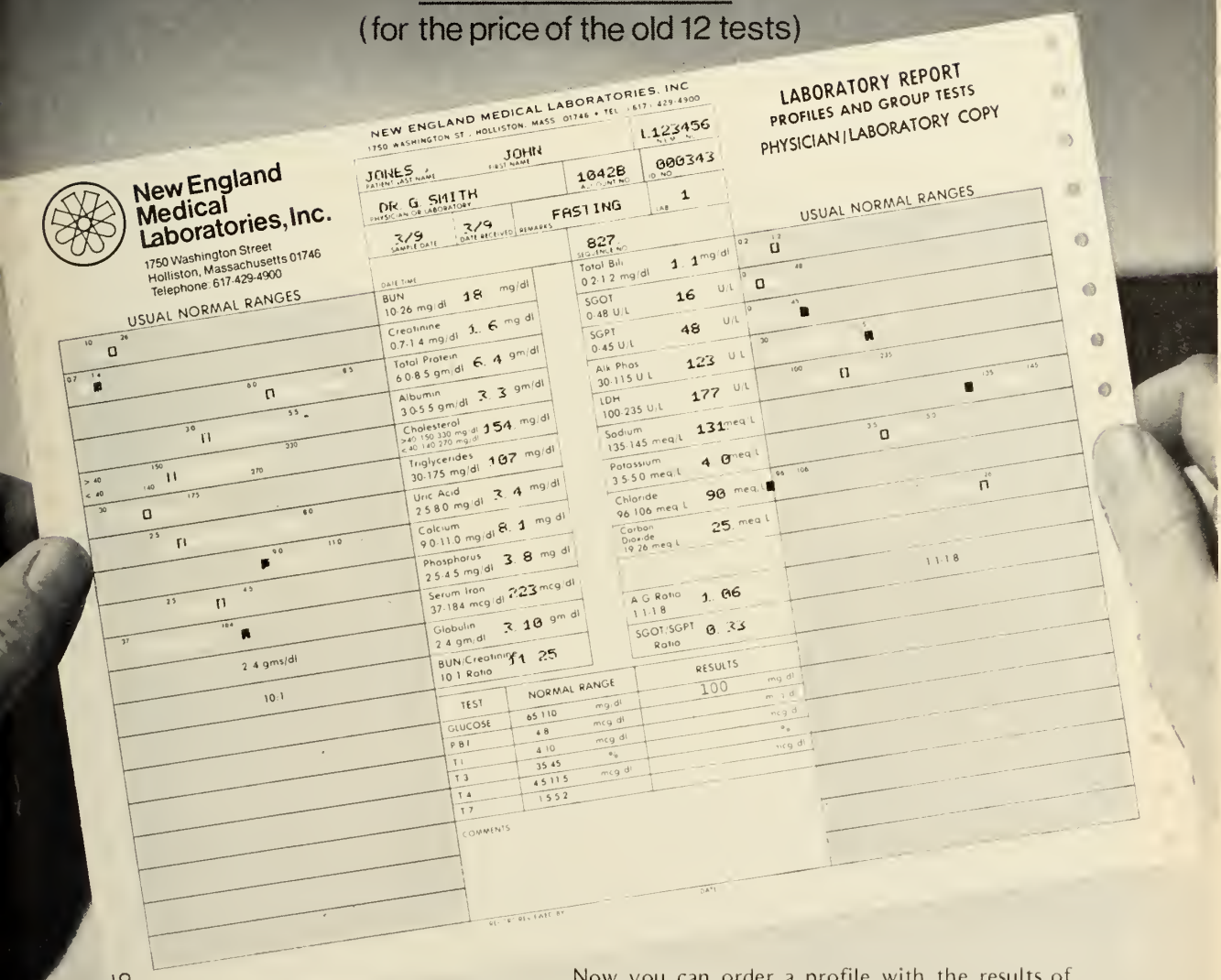
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Total Protein 6.0-8.5 gm/dl 6.4 gm/dl
Albumin 3.0-5.5 gm/dl 3.3 gm/dl
Cholesterol 154 mg/dl
Triglycerides 30-175 mg/dl 107 mg/dl
Uric Acid 2.5-8.0 mg/dl 3.4 mg/dl
Calcium 9.0-11.0 mg/dl 8.1 mg dl
Phosphorus 2.5-4.5 mg/dl 3.8 mg dl
Serum Iron 37-184 mcg/dl 223 mcg dl
Globulin 2.4 gm/dl 3.10 gm dl
BUN/Creatinine 10:1 Ratio 11.25
Total Bili 0.2-1.2 mg/dl 1.1 mg/dl
SGOT 0-48 U/L 16 U/L
SGPT 0-45 U/L 48 U/L
Alk Phos 30-115 U/L 123 U/L
LDH 100-235 U/L 177 U/L
Sodium 135-145 meq/L 131 meq/L
Potassium 3.5-5.0 meq/L 4.0 meq/L
Chloride 96-106 meq/L 98 meq/L
Carbon Dioxide 19-26 meq/L 25 meq/L
A/G Ratio 1.1-1.8 1.06
SGOT/SGPT Ratio 0.35
TEST
NORMAL RANGE
RESULTS
GLUCOSE 65-110 mg/dl 100
PBI 4-8 mcg dl
T3 4-10 %
T4 35-45 mcg dl
T7 1.5-5.2
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Brown Medical School And The Rhode Island Community--An Arrangement Of Mutual Benefit?

By Carol St. Pierre

> "By and large we couldn't live in the world today were it not for the medical profession, and I mean just that. We'd plain die, masses of us, tomorrow, if medical techniques were not kept up no matter what our fractional beliefs may be. On the other hand, we may be populating the world with idiots. No one knows the answer."
>
> William Carlos Williams
> **Autobiography**[1]

A cynical observation, perhaps, but its value is its questioning stance, and this is, hopefully, the tone which will be set in this paper. Much has been written, in both glorifying and highly critical terms, about the impact of the Brown Medical Program on both the medical and lay communities. The goal here is to review the facts of the medical school's "multi-level" interaction with the community and their implications.

Mayor Vincent A. Cianci, Jr. cited the medical school as a "people generator," and this has certainly been the case in the medical realm. As was observed by Doctor Herbert P. Constantine, Director of the Ambulatory Patient Center at Rhode Island Hospital, a medical school has need for expertise in all disciplines of medicine, creating "islands of excellence" which lead to a broadening of expert services to the area as a whole. Few question the rather obvious value of this. It is also true that the particular structure of this school, as contrasted to medical schools possessing their own hospitals, has promoted the interlacing of Brown with the Rhode Island community. Brown faculty, including housestaff, and students are now involved in patient care in eight area hospitals. But what does this all imply, and what questions should be voiced and directions taken as the second offspring of the Brown-Rhode Island experience are about to graduate? The subject is complex, and it seems wise to order it, beginning with the more global perspectives and honing in on the role the students themselves may play in this production.

CAROL ST. PIERRE, *Class of* 1976, *Brown University Program in Medicine.*

THE MACRO LEVEL — THE STATE AND CITY HEALTH COMPLEX

This section proposes to reflect upon the nature of the interactions of the Brown Medical Program with the state and city and various of their institutions, including hospitals, and to discuss briefly some economic issues. Consideration will then be given to the effects, negative and positive, on physicians not closely tied into the Brown system. Lastly, the potentially far-reaching implications of the increasing organization of health care in this state will be pondered.

From the student perspective the great openness of the State Health Department in terms of readiness to show students all levels of its operation reflects its eagerness to be in-

(Continued on next page)

volved with the medical school. This is corroborated by John T. Tierney, Assistant to the Director of Health, who is hopeful that Brown will further tie into state institutions, such as the Institute of Mental Health, thereby improving the quality of care in that sector of health delivery. The current trend certainly seems to be in this direction. Another state-level point of discussion is the number of health care personnel, notably doctors, being generated by the existence of the medical school. In the last few years the number of postgraduate, i.e. house officer and fellow positions in local hospitals has increased, in part attributable to the attracting feature of the university affiliation of these hospitals. Doctor Constantine pointed out that, since statistics show that house-staff tend to practice where they train, this will lead to an increase in the number of new practicing MDs in the state. Will this be a good thing? A survey published in this **Journal** last year indicated that roughly 383 new MDs would be needed in this state within the next five years.[2] However, the breakdown showed a need for approximately 256 primary care physicians and only half that number of specialists. The 1974-75 Annual Report to the Corporation of Brown University compiled by the Medical Education Program includes a table of distribution of house officers among branches of medicine. There is little correlation with the assessed needs. Thus, it seems to be time for some appropriate persons to attempt to obtain an overview of the "product design" of the state's residency training programs — Is the rate of creation of specialists and subspecialists far outstripping that for the primary care types?

Looking at the situation from the vantage of Rhode Island's hospitals, those other than the state institutions, many issues come to the fore. In a brochure describing its reorganization, Women and Infants Hospital stated that "A final major step in 1970 was the formal affiliation with Brown University's new School of Medicine . . . a major factor in its (the hospital's) maturation."[3] It went on to state that "The presence of a distinguished medical teaching staff also makes it possible to attract research grants, permitting investigative work which may bring benefit to all mankind." Clearly, in the view of this hospital, the affiliation with Brown was a major factor in its metamorphosis. This attitude may reflect well on both Women and Infants and the other affiliated hospitals, as well as on Brown. But it has also, as was pointed out to the author by Doctor Pierre M. Galletti, University Vice President (Biology and Medicine), raises the question of what discrepancies exist between the non-affiliated hospitals and those having the full measure of Brown interest. It seems that few strides have been made in answering this question. Perhaps there is an analogy between this situation and that of the primary care physician as compared to the specialist.

Those who have not "believed in" family practice/primary care would say it is demeaning to be a glorified triage officer, referring all cases but the common cold and living in the shadow of the specialist who is master of his/her field. It may not be a wholly different feeling for the community hospital situated within minutes of a university-affiliated hospital. But the current thinking about the well-trained family practitioner is toward the view that he can and should handle the majority of cases he sees and that the convenience to the patient of his accessibility and the interpersonal satisfaction to him of his role as coordinator-counselor in health care outweigh the negative features of the need to refer. Viewing the community hospital as the institutional analog of the general practitioner (GP), care should perhaps be taken to preserve the unique identity of such hospitals in Rhode Island, bearing in mind the special meaning they often have for the people in their localities. It seems possible, too, that these hospitals could house selected teaching experiences as in student-preceptor formats, since they are, after all, with their "real-world" approach to medicine in a good position to offer students enlightening primary care experience.

What does the Brown Medical Program mean for the City of Providence besides a rather unusual, large building on the East Side? Mayor Cianci commented that it "adds sophistication to the city and hospitals" and provides an added dimension to the intellectual life of the city. He also indicated that he found the school "very receptive" to establishing a working relationship with the city

and that it was thus an active contributor to the city's workings rather than merely a passive one. An important point is that the Medical Program has attracted an international assemblage of people new to the Rhode Island community, who often contribute new and stimulating ideas. This leads well into a discussion of economic issues.

Levi C. Adams, Assistant Vice President for External Affairs, described the medical school as a "high-wage, labor-intensive industry" which acts as an income generator for its community in that each full-time faculty member employs 2.5 support people, i.e. secretaries, laboratory technicians, and others often paid from out-of-state funds. Adams went on to say that, overall, the Brown Medical Program has probably had a "subtle economic impact" on the state in that these medical personnel, often with substantial incomes do indeed reside or spend most of their time in Rhode Island and spend their money here.

The comment was often made to the writer that the presence of the medical program has increased the costs of medical care in this state. Many, including John Tierney, feel that, even if this is true, it's worth it since the quality of medical care has also risen. However, it seems worthwhile to analyze in part where the costs have risen and what sources have felt the brunt of the increase. Levi C. Adams pointed out that most of the added costs have been absorbed by third party payers and the hospitals, but it is noteworthy that the increases are roughly comparable in both the Brown-affiliated and non-affiliated hospitals, suggesting that it is the greater availability of medical care, as well as the inflationary process which has been primarily responsible. Adams also pointed out that the medical program has generated new expertise in Rhode Island and that services for which patients formerly had to go outside the state are now provided in their own community. An example of this is chronic dialysis; no Rhode Island resident has been started on dialysis outside the state since 1971.[4] There is also the Radiation Oncology program at R I Hospital, which meets the needs of most of the state's cancer patients. While both of these services go on the books as cost increases, the great convenience for the individual patients would certainly seem to make them worth the costs, which may in part be counterbalanced by the fact that many of these patients can now continue to do some productive work in the state.

Thus, in general, many do feel as does Mayor Cianci that the Brown Medical Program "reflects positively on the city economically" and that there are consequences of its presence not yet in full bloom. Adams pointed out that the impact on local industry has not yet been felt. He believes that there is a certain consciousness created by a new medical program and that it will be called upon to react to new medical products put out by local industries. One South County physician felt that a major role of the medical program lay in providing a closer referral center, when this does have economic value in reducing transportation costs for patients and families.

The meaning of the medical program for this community's physicians and some of its effects on overall patient care is another important consideration. It is important to note that most R. I. physicians have very little to do with the Medical Program in any formal sense, though many become situationally involved working with various Brown personnel, including students. As an example of the former, Doctor Herbert Constantine pointed out that, of the approximately 380 members of the Rhode Island Hospital Staff Association, roughly 35 per cent are clinical instructors by title. It is true that the change to a four year school generated a greater number of clinical appointments which brought more of the community's practicing physicians within the orbit of the medical school. But the question of which physicians are given these appointments and the reasons behind them is so many-faceted and so beset with subtitles that it is best left unexplored here. For the purposes of this paper the essential point is that many, but not most, of the state's physicians have chosen or been chosen for teaching roles of some form in the medical school.

What is the personal value to the practicing doctor of teaching medical students? In some senses the function of teaching students is a modified form of peer review in that one must justify what one does both to the student and to oneself, and it may be more pala-

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table stimulus to keeping up one's own standard of care than is a Professional Standards Review Organization (PSRO). From the student perspective at least, the interpersonal component of the teacher-student exchange is often both motivating and fun.

Many of the most positive aspects of the teaching role have been capitalized upon in the Pediatric Primary Care Unit (PCU) at Rhode Island Hospital, whose director is Doctor John S. O'Shea. The Department of Pediatrics and the PCU have shown a sensible approach to assessing and meeting the needs of both the medical and lay communities. The PCU, which is staffed by house officers and medical students, sees all non-emergency pediatric cases during working hours. It employs as attending physicians on a rotating basis many of the state's practicing pediatricians. Most pediatricians whom the author spoke to felt this was a very enjoyable role and that the contact with students was often mutually beneficial. The Department of Pediatrics has also shown a sensitivity to community needs in not allowing its trend toward centralization to deprive various localities of resources they've come to depend upon. According to Doctor O'Shea, while the ultimate goal is for Rhode Island Hospital to become the inpatient referral nucleus, the plan is also to increase ambulatory activities at the Pawtucket Memorial and the Roger Williams General Hospitals in the fashion of the existing PCU, thereby allowing families who identify with these hospitals to continue doing so. The Pediatrics Department now also supervises the Mobile Van which has acted as a form of mobile screening clinic throughout rural Rhode Island. Doctor O'Shea sees its primary function as that of an entry point into the health care delivery system, and his hope is that it will ultimately become obsolete as most of the state's children are guided to sources of health care in their own localities.

But what does the medical school mean to those physicians not intimately involved in teaching? It may be viewed as a threat to the status quo of medical practice. In this respect there is little use in denying that the emergence of a medical school complex will effect many changes in the character of a community's medical care. Even if the prevailing view is that most of the changes are for the good, change per se is an unsettling influence on many individuals. However, granted that the writer spoke to a very biased sample group, it does seem that the overall feelings about having a medical school are positive. The prime significance of the school to the practicing physician is that its prestige value attracts highly trained clinical faculty from elsewhere, who eventually come to act as physician educators by way of conferences, research efforts, and the general diffusion of their up-to-date knowledge and theories among those involved in patient care. They are the tertiary care physicians who are academically involved in clinical work and whose roles are, in part, to keep the primary care doctors, who are immersed in patient care, abreast of important developments in specialized fields in as time-saving a manner as possible. Along these lines the Brown Medical Program has participated, together with the Rhode Island Medical Society and the Rhode Island Health Science Education Council, in formation of a committee to coordinate and create educational vehicles for the doctor in practice.

Nonetheless, in spite of all of the changes which have been wrought as a result of the medical school's presence, care in the private sector of Rhode Island medicine has in many ways remained untouched. One may ask if this is as it should be or if Brown ought to be taking a more assertive role in helping to organize care in Rhode Island's private medical domain. This dichotomy raises many questions to which there are few or no answers; namely, what new directions will be taken by the Rhode Island community's medical care system and what roles may the medical school play in the various issues at hand.

One of the State Health Department's greatest problems, the organization of health resources, came to a head with the arrival of the Brown Medical Program, since not all of the area hospitals could become tertiary referral centers. However, this principle of organization seems to have become the key here, and in a state such as R. I., which readily lends itself to being viewed as a single complete entity, the growth of "Organization" may in some ways be going unchecked. Some of the bases for suggesting this lie in various recent developments in this state.

In early March the reorganization of delivery of mental health care was discussed by the **Providence Journal-Bulletin** medical writer, Selig Greenberg, in those newspapers.[5] The plan is in essence a move toward deinstitutionalization of Institute of Mental Health patients. But the far reaching aspect of the revamping affects Butler Hospital, which, while it has been caring for patients from most socio-economic levels, has remained very much a private institution. It will now be accepting **all** Providence residents needing short-term psychiatric care. Those patients not having the ability to pay will be treated as though they'd been admitted to IMH, that is, the State of Rhode Island will pay Butler Hospital for the care of these patients. In conjunction with this, Butler's proposed increase of twenty-four beds was approved. This impresses this writer as a rather significant compromise between a private health care institution and the state government.

Another current issue with highly provocative nuances concerns the results of Governor Philip W. Noel's malpractice study commission. Selig Greenberg noted that "doctors have agreed to sweeping state controls on medical practice."[6] In spite of a defeat on the lawyers' contingency fee issue, the Rhode Island Medical Society voted to support the proposed omnibus bill. The controls include an every-three-year relicensing, contingent upon completion of a continuing medical education course. They also refer to, as cited in a recent article in the newspaper **East Side**,[7] the fact that Rhode Island MDs must now purchase malpractice insurance through the Joint Underwriters Association, this being the only state in which this is mandatory. Another piece of legislation under consideration is interesting. It is designed to extend the licensure authority of the state to various health care facilities not now licensed and to extend its control as well over the allocation of health resources. The preamble begins: "Whereas, the public health, safety and welfare of the citizens of this state are deemed to be the prime obligation and duty of government; and whereas, the achievement of equal access to quality health care at a reasonable cost is a priority of state government. . ." and it goes on to outline the particulars of the proposed extension of state authority.

Doctor Pierre Galletti expressed concern to the writer over the implications of such legislation. The statements quoted above have the distinct tone of socialized medicine. Albeit in an indirect manner, the state seems to be taking on the responsibility for the provision of quality health care to all of its citizens. This appears to imply that the state must put itself in the position of controlling a substantial portion of the health care delivery system in order to accomplish its goals. This bill shows a definite tendency toward undermining the power of the boards of trustees of the hospitals. The above mentioned examples in the realms of mental health care and malpractice corroborate these observations in that they reflect state government's increasing entry into the private sector of medicine. These comments are not intended to be judgmental, since the author has not the experience to decide as to whether the seeming trend would be harmful or beneficial to the Rhode Island community as a whole; the intent is rather to provoke thought on these matters.

Rhode Island is particularly amenable to centralization and organization of services. In view of this perhaps the state could begin to serve as a national model of a well-designed health delivery system with a large measure of government control. However, the participants in this far-reaching reorganization, in particular the area physicians, ought perhaps to reflect upon what this may mean to the state and to their own styles of medical practice. While such a model health care system may indeed be very successful, thoughtful and cautious consideration must be given to the overall design and implications, with the latter being discussed and acknowledged by all those involved.

An important consideration in the context of this paper is the meaning for the Brown Medical Program of the current drift toward further state control of health care. In many ways Brown University has been a sort of prototypical private institution with the medical school being its first large-scale active venture into community affairs. The fact is that most of the medical facilities with which Brown is involved and virtually all of the University-attached physicians will be affec-

(Continued on next page)

ted by the proposed legislative changes. How should and can the medical school respond to this? For example, the school's greatest control of its teaching as a private institution rests in the undergraduate and preclinical years, whereas in the clinical years the teaching of medical students is more a function of the medical community at large, over which Brown has varying degrees of control. Does this suggest, then, that the undergraduate portion of the Program in Medicine be carefully nurtured so that the Brown Medical Program remains unquestionably a private institution? Were the school to eliminate the college component of its medical program, would it ultimately become a state institution? Given this possibility and the precarious financial status of medical schools in general, the fact that Rhode Island must have certain loyalties to its own university and the overall economic picture in this community suggest that the medical school might fall into rather dire financial circumstances were it to come under primarily state control.

While much of this discussion contains highly speculative questions, it does appear that the time is ripe in this community for some imaginative thinking about the potential consequences of changes in the health care delivery system; whether provoked by the emergence of the new Brown Medical Program or by the current national consciousness of the need for changes in medical care. To summarize, the writer's general impression is that the medical school has had a positive and stimulating effect on the Rhode Island community, but it and the community have yet to come to grips with some of the dynamics of their interactions.

THE MICRO LEVEL — THE MEDICAL STUDENTS

Collecting the information for this paper was an interesting experience for the author, as a medical student, since it generated substantially more modest feelings about the importance of one's role than the author had held before. As one local physician phrased it, most of the accoutrements of a medical school are necessary for high quality medical care in any case, so one might as well train medical students in the process. In spite of acquiring this realistic view that most medical school functions have little to do with the students, the writer has arrived at the feeling that, as creatures of still-great novelty in the community, medical students do have some uniquely valuable attributes.

Most people spoken to agreed that the major impact of the student was at the one-to-one level, either in a negative or positive sense. Doctor Herbert Constantine stressed that the value of students lay in their generation of increased activity surrounding patient care and in giving patients more attention since, by and large, students have more time to give. Though it was generally agreed that the average patients were probably unaware of the arrival of the medical school, these same patients might well come to benefit from students' involvement in their care. The debit side must also be considered. It would be pleasant to believe that all students have a caring manner and are primarily concerned with giving patients attention which others busier than themselves have little time to offer. However, in reality, there are students who cause patients more discomfort than reassurance. This may be in the form of an extra, impersonally done history and physical examination, or from a thoughtless remark made out of naivete and inexperience. The problem has two aspects. In the first instance, for the ultimate good of all concerned, the medical school selection process should consider carefully the candidate's interpersonal abilities to insure, insofar as possible, that students will deal well with the intimacy of the doctor-patient relationship. Secondly, during the entire training process, rather than in discrete courses, sensitivity and thoughtfulness should be emphasized and encouraged. In sum, while the average number of the community has little or no contact with either the Brown Medical Program or medical students unless he or she becomes a patient, there are certainly activities other than patient care through which students become involved in community affairs.

This discussion would be incomplete without consideration of the medical student experience which has the greatest community focus, namely the six-week clerkship in Community Health. Of major significance in this regard have been the following so-called "Health Planning Projects": 1. Centralization

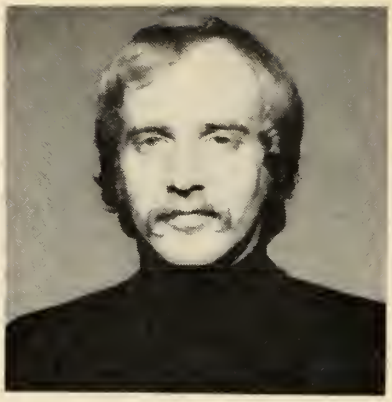
(Continued on page 236)

Brown University Program In Medicine Class Of 1976 Postgraduate Training Plans:

JOHN FEMINO, Brown University, Roger Williams General Hospital, Medicine.

RICHARD SACKNOFF, Brown University, The Miriam Hospital, Medicine.

SHARON PARNES, University of Minnesota, University Hospital, Pediatrics.



RICHARD LIVERNOIS, University of Southern California, L. A. County — U.S.C. Medical Center, Ophthalmology.

JUDITH STEIN, Brown University, Roger Williams General Hospital, Medicine.

SANDRA LEHRMAN, Harvard University, Massachusetts General Hospital, Pediatrics.

JOSEPH PERLMAN, Vanderbilt University, University Hospital, Surgery.

MARK NEMEROVSKI, University of California, L. A. County-Harbor General Hospital, Medicine.

LOUIS MARTIN, University of Washington, University Hospital, Medicine.

MARILYN SARLES, Brown University, Roger Williams Hospital, Medicine.

RUSSELL LAUDON, University of Pittsburgh, Montefiore Hospital, Medicine.

(Continuel on page 209)

Brown University Program In Medicine, Class of 1976: Some Biographical Observations

By Stanley M. Aronson, M.D.

On June 7 of this year Brown University will confer the MD degree upon sixty of its medical students. These men and women represent the second contingent of physicians to emerge from this campus during the current century. They are however unique in that they are the first of our medical classes to have begun their formal medical education at Brown University knowing that the University was fully committed to a four year MD program. This institutional commitment became operative only after the Liaison Committee on Medical Education had issued a favorable accreditation report during the summer of 1972.

The medical class of 1976 during its tenure at Brown has witnessed the resignation of a president, the beginnings of an economic recession, the ending of the conflict in Indo-China, and the slow but persuasive myelination of a medical school in Rhode Island. During this four-year span there has also been public discussion and imminent enactment of legislation regarding geographic maldistribution of physicians and the allegedly excessive concentration of doctors in certain specialties at the expense of the primary care sector of the profession. The class inaugurated its medical education at a time when a graduating physician determined his own specialty and site of practice based on personally determined priorities and constraints. It will graduate at the margins of an era when societal concerns will impinge upon such considerations.

This brief class biography cannot begin to convey the unique and individual character of these sixty students, their growth during these past four years, their guiding principles, or indeed even their professional and extracurricular competencies and skills. Nevertheless, both custom and deep pride require us to record a profile of this class.

Most of the sixty students are from the New England region, although there is some nominal representation from every major segment of the country, including 17 states. When the class began its education at Brown four years ago, twelve of its members were from Rhode Island. That number rose to thirteen in the ensuing years as the result of marriage. Still more of the graduating students have expressed a serious interest in transferring their permanent residence to this state.

Except for the eight students from the greater Providence region, there did not appear to be any notable geographic clusterings. Three students are from New York City and two are from Cleveland, but otherwise no two students come from the same municipality. Of the 60 senior students only five come from cities with populations exceeding 1,000,000;

STANLEY M. ARONSON, M.D., *Dean of Medical Affairs, Brown University.*

TABLE 1:

Class of 1976: Locations of Home-towns, Places of Internships and Likely Places for Practice

Region	Hometown (as of 1972)		Location of Internship Anticipated		Place of Actual Practice*			
New England		26		26		29		21
Rhode Island	12		12		17		9	
Massachusetts	10		11		7		8	
Connecticut	2		1		5		0	
Other	2		2		0		4	
Middle Atlantic		20		8		8		4
New York	12		5		4		2	
New Jersey	3		0		1		0	
Pennsylvania	5		2		3		0	
Other	0		1		0		2	
South		1		5		3		1
Mid West		7		5		8		2
Southwest		3		1		1		0
Far West		3		13		11		10
Unknown		0		2		0		22
Totals		60		60		60		60

*An additional nine graduates designated Rhode Island as a second or third choice.

TABLE 2:

Medical Specialties which the Class of 1976 Graduates Plan to Enter

Medical Specialty	When Determined	
	Upon entrance to medical school	Upon Graduation from medical school
internal medicine*	30	28
family medicine*	10	6
surgery	5	5
psychiatry	5	2
radiology	2	2
pediatrics*	1	9
obstetrics*	1	5
other	0	3
unknown	6	0
Total	60	60

*Internal medicine, family medicine, pediatrics and obstetrics are conventionally considered to be the medical areas of primary care. On this basis, 42/60 (70%) of the class expressed a preference for primary care on entrance to medical school; this number rose to 48/60 (80%) at time of graduation.

25, on the other hand, have home towns with populations of less than 25,000. Only a small number of these towns may be regarded as rural, since most are within 50 miles of a major metropolis.

Table 1 lists the current places of residence of the class members. At a time prior to the disclosure of the internship matching program results, the members of the class were asked to indicate where they wished to undertake their graduate medical training. Table 1 identifies these aspirations and the actual sites where the class will receive internship training. The differences between columns two and three in Table 1 are not very great. The class were asked to indicate where they hoped ultimately to practice (column 4, Table 1). A little over one-third of the students (22 men and women) were undecided; but of the 38 students expressing a geographic preference, over 50 per cent signified that New England was where they wished to establish their practices. Nine of these 38 students specified Rhode Island (24 per cent), and an additional nine students identified Rhode Island as a second or third choice. Of the 18 senior students listing Rhode Island as a preferential or likely place for practice, eight hope to specialize in internal medicine or family medicine, three in obstetrics, two in psychiatry, two in pediatrics, and one each in dermatology, radiology, and surgery.

We asked the class to state the specialty of medicine which they plan to enter following graduate education. The question was first asked when the class entered medical school (1972) and then again shortly before gradution (1976). Table 2 compares the two sets of answers. The number of students expressing interest in pediatrics and obstetrics increased considerably from the first to the fourth years of medical education. The number of students identifying with other specialties did not change substantially. One should not assume, however, that this represents a steadfast

TABLE 3:

Electives taken (434) by the Class of 1976 Medical Students during their Junior and Senior Years

Medicine		225
advanced clerkship	16	
cardiology	36	
dermatology	22	
endocrinology	18	
gastroenterology	16	
hematology	19	
infectious disease	28	
nephrology	20	
neurology	25	
other	25	
Surgery		62
general surgery	9	
orthopedic surgery	6	
pediatric surgery	8	
thoracic surgery	6	
anesthesiology	10	
other	19	
Obstetrics, gynecology		9
Pediatrics		30
Ophthalmology		26
Psychiatry		11
Radiology		34
Nuclear medicine		2
Pathology, laboratory medicine		9
Emergency room		20
Laboratory research		6

(Continued on next page)

TABLE 4:
Out-of-State Clinical Electives taken by Class of 1976 Medical Students

United States		Elsewhere	
California	15	England	3
Colorado	5	Afghanistan	2
Connecticut	2	St. Lucia	1
Florida	1	Canada	1
Georgia	2		
Hawaii	1		
Illinois	3		
Maine	1		
Massachusetts	12		
Montana	1		
New Hampshire	1		
New Jersey	1		
New York	10		
Nevada	1		
Pennsylvania	2		
South Carolina	1		
Texas	1		
Washington	3		

loyalty to the disciplines of medicine. For example, the five students who upon entrance to the medical school had expressed an interest in surgery were not the same five students who listed surgery as their designated choice at the time of graduation. Indeed, in only 23 of our 60 students was there concordance between their first and fourth year decisions regarding choice of specialty. Most of our students seem to have changed their views during their four years of medical school study. In the case of 18 of the students there was a dramatic change in specialty preference between the first and fourth years of medical school.

The class of 1976, during their junior and senior medical school years, received academic credit for 434 clinical electives. Over one half of these electives were supervised by the Section of Medicine and represented preceptorial clerkships in the defined subspecialties of medicine. The other 209 electives were distributed among surgery and the other conventional clinical disciplines (Table 3). Over half of the graduating class completed electives in both cardiology and radiology. Other clinical electives selected in great numbers by the class included infectious disease, neurology, opthalmology, and dermatology.

Medical students at Brown University are permitted to receive elective credit for periods of up to one academic quarter spent on out-of-state medical campuses or in health care installations. Forty-five of the 60 students (75 per cent) elected to exercise this privilege and were accepted for out-of-state clinical electives in 18 states and four foreign countries. A total of 70 elective courses were successfully completed by these 45 students, with about half (37) in the states of California, New York, and Massachusetts. In all instances academic evaluations were obtained upon completion of these educational efforts. In Afghanistan and St. Lucia our students were accompanied by members of the Brown University Program in Medicine faculty. Table 4 lists the clinical electives taken in places other than Rhode Island by the medical students of the class of 1976.

We asked the students to indicate the kind of practice they anticipated for themselves some ten years hence. Table 5 lists these preferences. The total number in Table 5 exceeds 60 since some of our students checked off more than one choice.

The students were asked whether they saw themselves as members of a medical school faculty ten years after graduation. Only one student anticipated no role in medical education. The answers of the remaining 59 are summarized in Table 6.

We asked them to signify how old they were when they decided definitely upon medicine as a career. Seven of the students stated that they were convinced of their professional

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TABLE 5:
Class of 1976: Anticipated Type of Medical Practice a Decade from Now

Type of Practice	Number of Students*
Individual practice	7
Group practice	44
Medical school faculty (predominantly)	17
Federal employment	4
City or state employment	1
Private industry	1
Other	3
No answer	1

*Total number exceeds 60 since some of the students checked more than one category.

TABLE 6:
Class of 1976: Anticipated Relationship to Medical Education a Decade from Now

Role	Number of Students
No role at all	1
Peripheral role (voluntary faculty)	34
Partly salaried by medical school	22
Completely salaried by medical school	6
Working in a research capacity	3
No answer	1

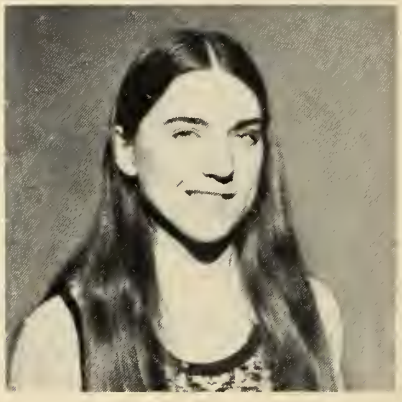
SUSAN PAKULA, Brown University, Rhode Island Hospital, Pediatrics.

DAVID THAYER, Albany College, Berkshire Medical Center, Medicine.

DAVID GOLDEN, Harvard University, Beth Israel Hospital, Medicine.

STEVEN MILLER, Brown University, The Miriam Hospital, Medicine.

JAMES REIMER, Brown University, The Miriam Hospital, Medicine.



ELIZABETH GEORGE, Rutgers University, Overlook Hospital, Family Practice.

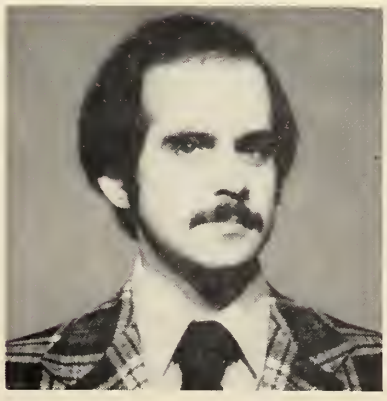
STEVEN HAYNE, Letterman Army Medical Center, Pathology.

RICHARD SMITH, Brown University, Pawtucket Memorial Hospital, Family Practice.

JEFFREY SUTTON, State University of New York, Kings County Medical Center, Medicine.

RICHARD SOLLENBERGER, University of California, San Francisco, San Francisco General Hospital, Flexible.

R. SCOTT DYER, University of Minnesota, University Hospital, Family Practice.



PAUL PITEL, Brown University, Rhode Island Hospital, Pediatrics.

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Care Of The Chronically Ill: Planning For Progress

By David S. Greer, M.D. *and* Marilyn T. Kaplan, M.A.

Chronic illness and long-term physical impairment are major health problems in the United States today as a result of lower mortality from infectious and acute illnesses, increased longevity, survival of the physically handicapped, and other related factors. Past and present approaches to these problems have been less than adequate as is evidenced by the pervasive discontent of the health professions and lay public with the facilities and services available for the treatment of long-term disabling disease.[1] The rate of institutionalization of individuals with chronic infirmity has risen progressively in the last three decades, and projections indicate that it will continue to rise unless new approaches to long-term care are devised and implemented. Costs have skyrocketed, with most of the burden being placed on state and federal taxpayers. The health care establishment which serves this population is the most fragmented and poorly integrated of all health care systems in the United States. Proprietary nursing homes, chronic disease hospitals, homes sponsored by nonprofit organizations, visiting nurse associations with varying programs, and a diverse group of community service agencies attempt to serve this population, but the services they provide are uncoordinated and continuity of care is lacking. Care, whether good or bad, is most frequently **custodial** rather than **restorative** and **goal oriented.** Eventually, most of these patients are sequestered in institutions or isolated in their homes, no longer considered "patients" with short and long-term therapeutic goals, but regarded as invalids requiring only supportive care with occasional crisis intervention. Institutions, agencies, and services generally address narrowly defined aspects of the problem; there has been no unifying or integrating mechanism to rationalize and coordinate the services available.

Chronic disability is a major national public health problem. New approaches to management based on a therapeutic philosophy which is restorative, rather than custodial and merely supportive, should be attempted and evaluated.

NEED FOR SERVICES

National Estimates. Estimating the number of persons requiring service for chronic impairment is difficult; there is lack of agreement concerning methods of measuring the population at risk or defining what constitutes impairment.[2,3] However, all available evidence indicates that the number of persons affected is very large. Data from the National Health Survey indicate that over 51 million Americans were impaired in 1971; impairment being defined as "... chronic or perman-

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ent defects, usually static in nature, resulting from disease, injury, or congenital malformation . . . Decrease or loss of ability to perform various functions . . ."[4,5] According to the 1965 Social Security Survey of the Disabled, there were 10,739,000 civilian noninstitutionalized persons between 18 and 64 with disabilities: 3.6 million were classified as severe; 3.1 million were occupationally disabled; and 4 million had a work limitation.[6] Moss has observed that "daily, 4 to 5 million adults, not in institutions, are temporarily or permanently disabled for work. Nearly half this number have been disabled for work for about 7 months or longer and yearly, about 350,000 adults become sufficiently disabled to incur some vocational handicap.[7]

The National Center for Health Statistics conducts periodic nationwide surveys on the disability status of the population. Their data indicate that in 1969-70, there were more than 23 million Americans, or 11.7 per cent of the population, with some type of activity limitation as a result of a chronic condition. The 1972 figures indicate almost 26 million or 12.7 per cent of the total population, with an activity limitation. Furthermore, in 1972, more than 19.5 million persons, or 9.6 per cent of the population, were identified as having chronic conditions and impairments that resulted in limitation of the amount or kind of major activity or in outright inability to carry on major activities of daily living.[8,9]

A more recent study conducted by the Department of Health, Education, and Welfare in 1973 estimated that 13.5 per cent of the nation's noninstitutionalized population had some limitation of activity due to various chronic conditions. In this report it was estimated also that 10.2 per cent or 20,938,000 people were limited in major activities due to chronic health problems.[10]

The elderly are a highly significant group with regard to rehabilitation and long-term care. Although health status in the aging population does not fit the common stereotype of age as a condition invariably associated with debility, senility, isolation and unhappiness, chronic illness is more prevalent in older persons. About 80 per cent of persons over 65 are afflicted with one or more chronic conditions; 12 per cent have some limitation in mobility; and of noninstitutionalized persons, 6 per cent are housebound.[11] Shanas has estimated that one-fourth of all persons 65 and over who live in the community require home care services.[12] Pfeiffer's studies indicate "significant impairment" for an overall total of 41 per cent of older people when economic, social, and self care functioning are included.[13] Preliminary data from a local survey in Philadelphia place the percentage of elderly impaired at 27 per cent.[14] In addition to the chronically impaired in the community, about 5 per cent of older persons are confined in institutions.

It has been demonstrated repeatedly that physical impairments and service needs increase with advancing age. As longevity increases, therefore, long-term care service needs will also increase. A marked increase in the population age 75 or over has been projected for the next several decades; by 1990, it is anticipated that 11 million Americans will be over age 75; therefore, it seems likely that long-term care needs will expand progressively in the intermediate term future.[15]

Rhode Island Estimates. In 1968 Greenleigh Associates, in a study relevant to vocational rehabilitation, forecast that 9.8 per cent of Rhode Island's population would be classified as disabled in 1975. Extrapolation of the data from the 1969-70 National Center for Health Statistics Survey suggests that this year there will be 23,640 Rhode Island residents unable to carry on any major activity and 68,370 residents with some limitation of major activities, a total of 92,010 residents. A similar figure can be arrived at by extrapolation of the 1973 Department of Health, Education, and Welfare estimate to the population of Rhode Island which would indicate that there are currently 97,127 Rhode Islanders with limitation of major activities. In the 1975 Household Survey conducted by Rhode Island Health Services Research, Inc. (SEARCH), 35.1 per cent of the civilian noninstitutionalized population interviewed reported long-standing health conditions; 15.4 per cent reported some physical impairment and 15 per cent some limitation of major activities. These surprisingly large figures become increasingly dramatic when the older population is considered: in the same survey 66.7 per cent of those over age 65 reported long-standing ill-

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nesses; moreover, 37.2 per cent of those over 65 reported some physical impairment and 31.6 per cent reported some limitation of major activity.[16]

The Household Survey also indicates that 8.8 per cent of the interviewed population reported interference with activities of daily living. This percentage also increased significantly in the older age groups.[17] The percentage of people over 65 years of age in Rhode Island is increasing rapidly; it increased by 48 per cent from 1950 to 1970 and projections indicate that by 1980, there will be 132,905 citizens of Rhode Island 65 years of age or older. In 1980, therefore, it is anticipated that the over 65 age group alone will contain 50,-105 seriously disabled people in need of long-term services.[18]

COST CONSIDERATIONS

The most obvious losses incurred by society as a result of disability are the reduction in national and state income and the expenditure of resources for special medical, custodial, and nursing care. There are also economic losses, which will not be realized until future years; for example, chronic conditions in parents may impair their ability to care for and train their children and chronic conditions in children often impair their learning ability. Finally, there are many indirect costs of disability, including property losses, personal injury, and loss of productivity by caretaking families.

In 1965 Allan stated that "Something on the order of 75 billion dollars is the annual cost of disability in the United States to taxpayers, employers, insurance carriers, and private citizens."[19] Berkowitz and Johnson estimated that approximately 7 per cent of the national income or 43 billion dollars was lost as a result of disabilities in 1967. In that year, they estimated that aggregate transfer payments for disability to those of labor force age amounted to 14 billion dollars, medical costs totaled more than 20 billion dollars, and survivor payments were about 3 billion dollars.[20]

In 1971 observers at the Levinson Gerontological Policy Institute at Brandeis University noted that public expenditure to nursing homes nationally amounted to 1.8 billion dollars. In Rhode Island annual Medicaid payments to nursing homes and intermediate care facilities have tripled over the past six years. In 1971, annual payments totaled $9,-392,000 with an average caseload of 3,195. By 1975, the annual payments reached $18,-225,000 with an average caseload of 3,784. The projected payments for 1976 are $21,-562,000 with an average caseload of 4,200 and the projections for 1977 are $27,509,000 with a caseload of 4,700. The increased expenditures on skilled nursing home and intermediate care facilities have contributed significantly to the overall increase in health care expenditures in Rhode Island. Of course, institutional care does not constitute the entire financial burden of care for persons with chronic illness in the state since such persons also require care in general hospitals, community agencies, and other segments of the health care system.[21,22]

INAPPROPRIATE INSTITUTIONALIZATION

Kisten and Morris state that many individuals are placed in nursing homes and other institutions for other than medical reasons, principally a lack of services essential to maintaining them in their own homes and communities. They noted that in Massachusetts "The Department of Public Health found that 37 per cent of 100,000 patients in licensed nursing homes required full-time skilled nursing care; 14 per cent needed no institutional care; another 26 per cent required minimal supervised living; and 23 per cent needed only limited or periodic nursing care.[23] Reporting on studies in Monroe County, New York, Berg et al. found pervasive misplacement of chronic and elderly patients in terms of level of care needed as between institutional care, various levels of nursing home care, and home care.[24]

A survey in western New York State indicated that 27 per cent of nursing home patients did not require nursing home services.[25] In Michigan a federal study of 378 patients in skilled nursing homes reported that 79 per cent did not need nursing home care.[25]

Similar inappropriate placement in Rhode Island has been noted in a recent Department of Health — SEARCH study. Review of all Title XIX patients in the State's 45 single or multilevel care skilled nursing facilities in 1973-74 prompted a recommendation that almost 30 per cent be transferred to a lesser

level of care. The Rhode Island report concludes that "There has not been a significant investment of resources to develop alternative kinds of care for the elderly who have some limitations and some need for an array of health and social services but who do not require intensive supervision or skilled care" and that "Programs and facilities for the care of the elderly will be needed as medical review leads to recommendations for relocation of patients who have some but not great health and social service needs."[26]

LONG-TERM CARE ALTERNATIVES

In recent years there has been increasing interest in programs coordinating individualized services such as the "day" hospital, sheltered housing, and hospital-based home care teams, as well as community-based personal care and home service programs. There has also been a proliferation of less comprehensive, more focused services such as transportation to outpatient clinics, visiting nurse services, homemaker services, meal delivery systems, telephone checks, and emergency "hot line" services. Sheltered care in noninstutionalized congregate facilities is increasingly being explored as a vehicle for returning patients to the community. Day hospitals, halfway houses, and foster homes are being utilized to assist former hospital patients to return to independent living.

Day hospitals were originally designed in England, Canada, and Australia to aid elderly psychiatric patients on a semi-outpatient basis. Recently, some have been explicitly designed as geriatric facilities. In England Lionel Cosin has used the day hospital as a central facility for hospital-based, comprehensive geriatric programs which are concerned with total long-term patient needs as well as family needs.[27] Recently, American nursing homes have become interested in developing day care programs. In Honolulu, two day-care programs developed as part of a medical complex have reported success in both long-term care and rehabilitation. In another report from a day care program,[27] 12 per cent of the patients were completely rehabilitated and returned to the community and the rate of decline was decelerated in a substantial portion of the patient population; expenditures were substantially below those in conventional residential care facilities.

Foster home care has recently begun to gain acceptance as an alternative to institutional care for the aged and disabled. The Benjamin Rose Institute in Cleveland has documented the success of large-scale foster home placement for the elderly and there have been occasional other reports of successful programs, but there have been very few published descriptions of these programs and research on the subject is almost nonexistent.[28]

Although half-way house programs are not usually considered as "long-term" since they usually provide only transitional accomodations, they also serve an important function in enabling aged and physically impaired patients to leave institutions. On the other hand, special housing programs can be an important and permanent alternative in long-term care. These may range from simple apartment buildings to highly protective and even institution-like settings. An early example of housing specifically aimed at the provision of a noninstitutional alternative for the elderly, physically impaired, or both is Highland Heights Apartments in Fall River, Massachusetts. This building is architecturally adapted to meet the needs of the physically impaired and provides a variety of services including outpatient nursing care, congregate dining facilities, physical therapy, homemaker, and visiting nurse services. Data derived from a study of Highland Heights residents indicate that they are much less likely to require institutionalization than members of a matched control group in the Fall River community.[29] The mortality rate has also significantly decreased; costs are significantly less than institutional alternatives; and there is a significant increase in socialization and decrease in depression in the residential population.

Although most home care programs are primarily oriented toward post-hospital continuing care, these programs also represent an alternative to institutional care. As noted by Kahana and Coe, "If non-institutional alternatives were made available so as to provide at least some support for the family in helping to care for the patient, aged and disabled family members might be cared for with more willingness at home."[27] A demonstration home care project conducted in Worcester, Massachusetts measured the impact of the delivery

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of individualized packages of coordinated health, social, and other support services to elderly residents with varying levels of need for long-term care. The study showed that "Experimentals in the 'High Need, In Danger of Institutionalization' group were found to have spent a significantly smaller percentage of the impact period in an institutional setting. That is, the intervention (home care) seems to have had an effect on how much time persons in danger of being institutionalized actually spend in a Long-Term Care Facility."[30]

Physicians and social workers participating in a Florida State University study estimated that 16 to 18 per cent of the patients admitted to nursing homes in one county in one month could have had admission postponed, if in-home services had been available. Registered nurses involved in the same study estimated that as many as 30 per cent of the patients could have remained at home if adequate services had been available. Another study, conducted by the Benjamin Rose Institute in Cleveland, compared a group of 50 elderly patients who received home aide service after hospitalization with 50 who received no such service after hospitalization. Results indicated that those who received services at home were significantly more contented, had significantly fewer admissions to long-term institutions and, even when admitted, had significantly fewer days of post-hospital institutionalization.[31]

In March of 1976, the Auditor General of Rhode Island, reporting on skilled nursing homes and intermediate facilities, concluded that there is "mounting evidence that other health delivery systems may represent more viable choices for some patients for social, economic, and/or medical reasons." This report recommended that "added impetus be given to the current interest in alternatives in providing long-term care services . . . in . . . comprehensive home health services, day care programs, hospital-based skilled nursing services, and medically oriented housing."[22]

COST BENEFITS OF A REHABILITATION PROGRAM

The economists' technique of benefit-cost analysis should be an ideal tool for determining the desirability of committing community resources to an innovative long-term care and rehabilitation plan. Comparison of the expected benefits against the expected costs of a program can offer a valuable formal structure for considering an investment decision. Unfortunately, serious problems arise when one attempts to utilize this technique. John D. Worrall notes that: "not all benefits and costs can be easily quantified, especially those which are external. Often we do not know the time flow of benefits or the appropriate social rate of discount. Other problems can arise because of the inadequate data or lack of a control group. Finally, results are quite sensitive to the assumptions employed." In his studies Worrall was unable to quantify external benefits or costs. He observed that "The contributions of the program to the psychic well-being of the patient, his family and others may be quite large. They may not be measurable, but they cannot be ignored."[32]

William Kissick also has noted that the use of cost-benefit analysis is limited in the health field because of the basic concern with "what is commonly felt to be unmeasurable . . . basic suspicion of placing a dollar value on human life and a reluctance to use a precise methodology when we harbor the conviction that the unknowns vastly outweigh the knowns."[33]

Since 1965 there have been at least 18 benefit-cost studies of Federal-State Vocational Rehabilitation Programs. Most of these surveys have assumed that the major benefit of a vocational rehabilitation program is the increase in output that can be expected from the productive activity of the rehabilitants. The benefit-cost ratios do not take into account those clients whose physical, social, and psychological rehabilitation may be totally successful, enabling them to remain independent and free of institutional care, but whose employment opportunities remain limited. Nor do the figures reflect the value of work performed at home or in the community for no money wage. Despite these limitations most studies have derived benefit-cost ratios which amply justify the continuation of vocational rehabilitation programs. A 1975 review of 17 benefit-cost studies of vocational rehabilitation programs reported that despite the different program objectives, model formulations, and data bases used, all of the studies report favorable benefit to cost ra-

tios.[34] In 1969 Ronald Conley reported that the program he studied had a total benefit-cost ratio of 5 to 1; i.e., five dollars are returned for each dollar invested in vocational rehabilitation.[35] A 1975 study which built upon Conley's original conceptual work concluded that a cost-benefit analysis of vocational rehabilitation services provided to "Individuals Most Severely Handicapped" (IMSH) provided a return to society of $9.14 for fiscal year 1970 and $9.13 for fiscal year 1972 in current dollars for every dollar invested in these services. Moreover, the study points out that the economic returns for IMSH are less than for the general population.[36] Worrall's 1976 study reports a total benefit-cost ratio similar to Conley's while also noting that it is more efficient to rehabilitate the young, the better educated, the married, and the nonwhite. However, Worrall cautions that, because of the stated limitations of the technique, the decision-maker should not utilize benefit-cost estimates as his only criterion when making investment decisions. "but he can add these estimates to the qualitative inputs in the decision process."[32]

The Liberty Mutual Insurance Company has intensively studied the cost-benefits of rehabilitation programs for persons with spinal cord injuries. In a study of 103 workmen's compensation cases from 1966 to 1970 and 85 workmen's compensation cases from 1971 to 1974, Liberty Mutual demonstrated that prividing paraplegics and quadriplegics with a total rehabilitation program resulted in a net estimated loss reduction in indemnity and medical cost of $1,148,562 in 1966-1970 and $1,237,404 for 1971-1974. The net loss reduction per case was $11,151 in 1966-1970 and $14,731 in 1971-1974.[37]

DISCUSSION

The rising cost of care in both acute and long-term care institutions coupled with apparent improper utilization of long-term beds has contributed to the alarming rise in Medicare, Medicaid, and personal health expenditures. Escalating private and governmental expenditures have resulted in public concern for the exploration of more economical alternatives to institutionalization.

However, public policy often seems counterproductive. For example, third party payers frequently provide submarginal support for maintenance of disabled persons at home but readily provide large scale support to sustain the same people in institutions. Governments frequently pay generously for active treatment in crisis intervention but refuse payment for rehabilitation efforts which might reduce or eliminate many medical crises. As noted in a report of the Massachusetts Department of Elderly Affairs discussing a demonstration project for the delivery of home care services, "By providing services which postpone or prevent commitment to nursing homes and state hospitals, the program will help the elderly lead more pleasant and rewarding lives at home and avoid the waste of scarce tax dollars on unnecessary institutionalization."[38]

Institutionalization frequently may be inappropriate or unnecessary. The decision to institutionalize a patient often rests on factors other than his health and functional status. The likelihood of confinement to an institution depends to a significant degree on the demographic, social, psychological, and economic characteristics of the individual; the intake procedures and the policies of the long-term care facilities he encounters; the availability of alternative approaches to long-term institutional care; the social values and behavior patterns of the patient's family, his physician, and other providers of care; the source of payment for the care; the perceived function of institutional care; and the availability of family or caretaking individuals in the community.[39] For example, Gottesman and Brody[40] cite evidence from a variety of sources which indicates that childless old people and those with only one surviving adult child are over-represented in institutions and that the most common events precipitating admission in their study were the deaths or sudden illnesses of close relatives. Levin and Gurel point out that whether or not a person is institutionalized can be seen to be dependent upon the interaction between his needs and those of his family.[40] Hobenstein and Biddle reveal that even the physician's role in the institutionalization decision appears to be related to situational variables; interviews with a sample of physicians demonstrated that they took different positions concerning a recommendation of institutionalization de-

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MARK HODGMAN, Tufts University, New England Medical Center, Medicine.

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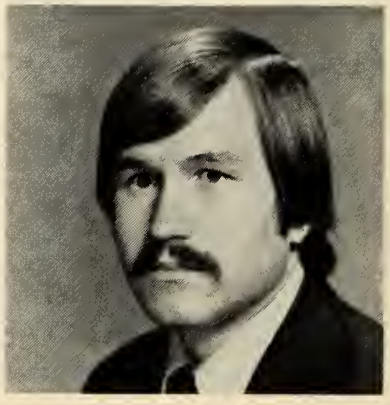

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(Continued on page 224)

A Bicentennial View Of Childrearing: Notes Of An Anthropologist

By Lucile F. Newman, Ph.D.

Philippe Aries in the historical review **Centuries of Childhood**[1] pointed out the immediate participation in adult life of children in medieval European society and what he termed a lack of awareness of a particular nature of childhood. In contrast, by the Eighteenth Century Americans not only noted the nature of childhood, but appeared obsessed by the physical, moral, and sexual problems they perceived as characteristic of childhood.

Definitions of the nature of childhood underlie modes of socialization of children to their own culture and systems of education devised by adults for their further civilizing. Canons of advice both medical and moral help the unwary parent accomplish these ends and become a part of popular culture.

New Englanders entered the Eighteenth Century an agrarian society of English Puritans and left it on the eve of becoming an industrial society of New England Yankees. The implications of this revolution for children and childrearing was rather more profound than those of the other (political) revolution going on simultaneously. Reviewed here are some **Puritan Values,** some **Yankee Values,** and some **Continuities** in relation to socialization, education, and the definition of the nature of man in New England.

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PURITAN VALUES

The Reverend Benjamin Wadsworth speaking about children from his pulpit stated:

"The Hearts naturally, are a nest, root, fountain of Sin, and wickedness; an evil Treasure from whence proceed evil things, viz. Evil Thoughts, Murders, Adulteries &c. Indeed, as sharer in the guilt of Adam's first Sin, they're Children of Wrath by Nature, liable to Eternal Vengeance, the Unquenchable Flames of Hell. But besides this, their Hearts (as hath been said) are unspeakably against Him, eagerly set in pursuing Vanities, on provoking God by actual Personal transgressions, whereby they merit and deserve greater measures of Wrath." (Morgan,[15] p. 51)

Certain aspects of the definition of man were clear and understandable to children. They required conformity and were therefore transmitted early. One of these was the concept of original sin — of the innate depravity of the human being at birth, and the punishments of hell (spiced with an active demonology), that befell those who were so unfortunate as to die before having been saved. The newborn infant who died unsaved (saving was a conscious act) received the dispensation according to Reverend Michael Wigglesworth of the "easiest room in Hell," not much of a consolation for those parents who lost many. Infant mortality was high. In this

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agrarian society fertility was high and large families were the rule. A late definition of accession to humanity is characteristic of societies with high infant mortality. That is, being born was not enough. True human life began gradually over the first several years after birth as the child himself took charge of the state of his soul. The Puritan newborn, then, perceived as lacking in the crucial human quality of godliness had to **achieve** humanity by his own acts, thereby necessitating instruction at home as well as in institutions of education.

The child was also perceived as having a stubborn will which must be broken. "Surely there is in all children (though not alike) a stubbornness and stoutness of minde arising from naturall pride which must in the first place be broken and beaten down that so the foundation of their education being layd in humilities and tractableness other virtues may in their time be built thereon." (Miller,[14] p. 214)

As Poor Richard said, "Teach your child to obey and you can teach him anything." This process began at home. As described by Cotton Mather in his Diary:[12]

"I first beget them a high opinion of their father's love to them, and of his being best able to judge, what shall be good for them. Than I make them sensible, tis a folly for them to pretend unto any witt and will of their own. . . . My word must be their law. . . . I would never come to give a child a blow; except in case of obstinacy or some gross enormity. To be chased for a while out of my presence I would make to be looked up, as the sorest punishment in the family. . . . " (Miller,[14] p. 211)

Not quite so benign in acts as in words the Reverend recorded in his Diary that "when his daughter Kathy reached the age of four . . . (he) took her upon his knee and told her what every girl ought to know about Hell. Nor did he conceal from her opinion that unless she wholly changed her nature she was assuredly destined for that place of eternal torment." (Miller,[14] p. 215)

Education was under these circumstances perceived by the Puritans of New England not as a luxury for the rich but as a necessity for the redemption of all erring children. Therefore it must be free. The message was the same at school. **The New England Primer** begins with the famous A: "In Adam's fall, we sinned all." The **Primer** even concurred in the assurance that death could come at any time, this fear heightened by the high mortality that meant every child had known of the death of friends or relatives at early ages.

I in the burying place may see
Graves shorter there than I
From death's arrest no Age is free
Young children, too, must die.

One way of redeeming the day besides being saved (and next to godliness) was work. "The Reverend John Cotton of Boston recommended that children be permitted to spend the first seven years at 'lawful recreation' but thereafter work must begin in earnest and the choice of a 'calling' ought not be postponed beyond the twelvth year." (Miller, p. 210)[14] Cotton Mather wrote, "I would put my children upon chusing their several ways of usefulness, and enkindle in them as Far as I can, a mighty desire of being useful in the world . . ."

In terms of the social contract the definition of man prevalent in New England of the early eighteenth century was one which stressed first innate depravity and the necessity to conform to religious values, then later stressed individualism and the value of work for the achievement of salvation.

YANKEE VALUES

The latter half of the Eighteenth Century, characterized by increasing commercialization and a beginning of industrialization, began also to reject values derivative of either the colonial experience or its origins. The Reverend Enos Hitchcock, writing from Providence in 1790 the **Memoirs of The Bloomsgrove Family Containing Sentiments on a Mode of Domestic Education,**[10] summed up some of the changes:

"Hitherto, education has been so conducted as to contract the powers of the mind, by directing the current of intelligence in a narrow channel: the object of it has been to teach WHAT TO THINK, rather than HOW TO THINK. The end of education, is, to unfold the latent powers of the human mind, direct them to suitable objects, and strength-

en them by exercise: it is the art of preparing children for the duties of life." (Hitchcock,[10] p. 15)

The definition of infant depravity had changed to a definition of childhood innocence, but still required careful instruction and direction:

"The first formation of children's minds being impressions; and their first actions the notices of impressions, it will follow that children are capable of considerable progress in falsehood, before they can learn the use of words. An ignorant or careless nurse, not distinguishing the different tones of pain and hunger, will soon teach a child to deceive in those sensations. Hence it is that parents, who do not attend carefully to their offspring, are astonished that the first use of speech is to deceive. This they ascribe to an unhappy perversion in the nature of their children; or to any but the true reason — their own criminal negligence. Under an apprehension that their children were born with a lie in their mouth, or with lying constitutions, they attempt beating it out by stripes. The disorder will only be increased by these means. Proper management would have prevented it. A very cautious and tender usage is necessary to remedy the evil." (Hitchcock,[10] p. 292)

The duties of life included also genteel adult manners:

"A child cannot be said to be unfaithful in not fulfilling engagements which he makes, before he is capable of understanding the nature of such obligations. No such promises, therefore, should ever be extorted from them. The obligation does not exist in nature, but in contract or agreement. If the nature of the obligation is not so far understood, as that the moral sense of right and wrong will exert itself in producing a fulfillment, from what cause do we look for it?" (Hitchcock,[10] p. 294)

As the hold of Puritanism on the New England mind relaxed, the value on individualism and the value on work remained, such that Doctor William Ellery Channing in the beginning of the nineteenth century could speak of child labor as a benefit, keeping children off the streets and out of trouble, and teaching them the value of labor and the urge to excellence.

CONTINUITIES

Erik Erikson speaks for the Twentieth Century in **Childhood and Society**:[9]

"Man's childhood learning, which develops his highly specialized brain-eye-hand coordination and all the intrinsic mechanisms of reflection and planning, is characterized by prolonged dependence. Only thus does man develop conscience, that dependence on himself which will make him, in turn, dependable; and only when thoroughly dependable in a number of fundamental values (truth, justice, etc.) can he become independent and teach and develop tradition." (p. 361)

The definitions of man most cogently expressed in the twentieth century have been those originating from the Freudian hypotheses — derived from and defining relationships in the nuclear family. They offer a balance of the innate and the acquirable, stressing the importance of accumulated early experience to ultimate personality, postulating a developmental procedure common to all. We set great store by the development of attachment, and the parents in the pervasive nuclear family are charged with and accept responsibility for the inevitable dissonances and discontinuities of early life.

A most dramatic change in the objective circumstances of children has occurred in the last two hundred years. That is the invention of the developmental stage of extended childhood — adolescence, the simultaneous development of what James Coleman[7] calls the era of "information rich, action poor" youth (p. 75). Although Cotton Mather was declaring that by twelve a child should have chosen his calling and be actively involved in the world, the twentieth century twelve-year-old, surfeited with information about a complex world, is considered a child until at least eighteen, perhaps twenty or more as he lives the anomalous role of "student" or adolescent.

Another major difference, then, is the postponement of direct experience and an explosion of vicarious or semidirect experience through television competing with the influence of educational institutions or families, leaving persons in this life stage overstimulated and underchallenged.

A definition of man emerging for the Twentieth Century stresses dependence on others — family, educational institutions, mass media — although the literature and value of individuality and the work ethic still prevail.

(Continued on page 241)

MARK CHALEM, University of Wisconsin, University Hospital, Medicine.

CAROL ST. PIERRE, University of Hawaii, Queens Hospital, Flexible.

LOUISE KIESSLING, Brown University, Rhode Island Hospital, Pediatrics.

KEITH BAKKE, University of Minnesota, University Hospital, Medicine.

JANICE ALLEN, University of Pennsylvania, Pennsylvania Hospital, Medicine.

WILLIAM KAYE, Brown University, Roger Williams General Hospital, Medicine.

SANDRA DAVIS, University of Connecticut, University Hospital, Obstetrics.

JOSEPH KAGAN, University of Colorado, University Hospital, Medicine.

JOHN McCUE, University of Connecticut, New Britian Hospital, Medicine.

CHRISTOPHER BADGER, Brown University, The Miriam Hospital, Medicine.

SUELLEN BALESTRA, Brown University, The Miriam Hospital, Medicine.

ALAN COLE, Case Western University, Mt. Sinai Hospital, Medicine.

(Continued on page 231)

Medical Education Abroad

By Judi Ehrenfeld, B.A., M.A.

Of the thousands of students not accepted by American medical schools, many chose as I did to go overseas to pursue their goal of becoming a doctor. I hope a partial account of my experiences after one year at the Faculté de Médecine, Université de Montpellier will prove interesting.

The course of study in the French medical school takes seven years, during which time the student studies the premedical sciences as well as the basic sciences. Clinical training is restricted to a few hours a day, three days a week in the last two years. It is not unusual for the course to take eight to ten years. depending on whether or not the student passes the exams the first time. Each student can opt to repeat any and all years.

The curriculum at Montpellier, which is the same throughout the French system of medical education, is quite different from that in the United States. Chemistry, physics, physiology, history, cellular biology, genetics, anatomy, and embryology are all given in the first year. No laboratory courses are given, and these courses extend into the second and third years. Pediatrics, obstetrics and gynecology, surgery, cardiology, and pathology begin in the fourth year and continue into the fifth. Pharmacology is given in the fifth year as well. Sixth-year students have neurology, dermatology, psychiatry, and anethesiology. The seventh year is devoted to thesis research, radiology, orthopedics, and medicine.

Classes are approximately four hours daily, there is a two-hour lunch break, and few students attend the optional discussion groups. The medical library facilities at Montpellier are extremely small, limited to French publications, open only for very limited hours and only certain days, and students are not permitted to check out materials.

For the first year of anatomy, only one session of laboratory was offered for one and a half hours. Dissection is reserved for the second-year students at which time twenty students are assigned to a single cadaver and then are split into five teams of four each. Each team is allowed to work on its cadaver once a week only, from 2:00 to 6:00 P.M. Therefore, one team can dissect only 20 per cent of the cadaver, 80 per cent being done by the other teams.

The composite grades on the two examinations yearly determine whether a student is promoted into the next year. If the student is not promoted and has done that year for the first time, that student can repeat the year once in order to advance. Testing of students is written for the first two years, written and oral afterwards only if the committee has some doubt as to whether a student should be promoted based upon the written exam, and in the sixth and seventh years, the exams are exclusively oral. In addition, the student is re-

(Continued on page 242)

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Presidential Address*

INDEPENDENCE, PROFESSIONAL UNITY, AND GOVERNMENTAL BUREAUCRACY

By Stephen J. Hoye, M.D.

I believe that it is particularly fitting on this day after the first celebration of Rhode Island Independence Day, when the colonial assembly renounced their allegiance to the king, that we should discuss a few of the problems that face Rhode Island medicine, and the chief one is the intrusion of the governmental bureaucracy upon our everyday practice of medicine.

As I look back on this long year — and it has been a long year, not just because it seemed that way to me, but because the actual scheduling of the annual meetings gave me a term of nearly 13 months — I've been proud to do my best to represent the Rhode Island Medical Society, not only locally but regionally and nationally, and I thank you for this broadening experience. The one message that has consistently come across loud and clear in my discussions with other medical society presidents is that bureaucratic regulation of medicine is on the increase and that we must unite and be heard both in the state and nationally — in the words of Ben Franklin "If we don't hang together, we'll hang separately."

Just observe the Federal Trade Commission and its suits against the AMA with regard to "advertising" and "restraint of medical manpower," and the Federal Drug Administration and its stranglehold on drugs. Nowhere is this monstrous regulatory compulsion of the Government in the name of "better health care for all Americans" better illustrated than in the Department of HEW where the Secretary is in the process of implementing Federal Law 93-641, which sets up a nationwide policing of the **costs** of health care in this country. In the fiscal year 1976 HEW will spend over $118 **billion** dollars — more than **all** spending for military defense, more than **all** the profits after taxes of **all** the corporations in America, more than all the savings of all the people in the United States. And just 200 years ago yesterday, Rhode Island attained the greatest degree of self-government of any colony of the British Empire! Ironic, isn't it?

But how can we as a profession shape the future of the health care delivery system in this country and in this state? There is only one way — by uniting and getting involved. We must not sit back and let "George do it"! If we can't actually speak out ourselves, we must support our elected leaders and give them the necessary financial support to enable them to do the job for us. The AMA has influenced national legislation in several ways in the past year, the notable one in filing

*Delivered at the 165th Annual Scientific Assembly of the R. I. Medical Society, at the Marriott Inn, Providence, RI, May 5, 1976.

a court suit and winning thus preventing HEW from imposing unacceptable utilization review policies upon the medical profession, which would have affected every one of our hospitalized patients here in Rhode Island. This cost exceeded $100,000. But what has been our thanks and support as a state? — a falling off of our state membership in the American Medical Association. By the first of May, 479 MDs had paid their AMA dues as compared to 575 a year ago! What a sad commentary on involvement!

We have to be involved in the political process by which our laws are made, or our expertise is wasted. We're the ones who are trained to take care of people, but we can't influence the legislative process from the isolation of our offices. I received a letter yesterday from a member of this society, which indicated that he was paying his dues to both the Rhode Island Medical Society and the American Medical Association reluctantly. I'm pleased, however, that he paid. One of his objections to the way the society is being run was expressed in this way: "I feel that the major issues that come up for consideration by the Medical Society that pertain to the members should be put to a vote by the full membership, rather than have any decisions decided only on the basis of the delegates." I will point out to this doctor that all the issues are major in this day and age, that we had a special meeting of the entire membership called less than two weeks ago on the hottest subject that has faced this Society in the 17 years I've been a member — malpractice legislative reform—and that less than 200 members showed up! If we tried to run this Society by mail ballots, we'd spend all our time voting and making the Postal Service rich, while the national and state regulatory agencies would be busily doing, acting and legislating.

In closing, my final thought is that we must unite and pull together for the common good of our patients and the people of Rhode Island. We can't afford the luxury of being divided. In the next few days every one of us can do something positive toward this goal by calling his state representative or senator and urging passage of the Malpractice Legislative Reform Bill H 7796, which is now before the General Assembly. To be truly effective in shaping decisions that affect medicine Rhode Island physicians must continue to organize, to work, and to contribute. We must build a new sense of mutual cooperation as well, a cooperation that will ensure a rational medical system in this state and this nation.

I should like to thank the Executive Office and the staff of this Society for their hard work during this past year. In Tim Norbeck and Jim Clarkin I think we are particularly rich in executive talent, and nobody appreciated it during the past year more than I. As I turn over the reigns to Doctor Herbert F. Hager with mixed emotions, I thank you for the privilege of leading you. I've done my best, and no man can ask or give more .

I think this year is epitomized by the First Aphorism of Hippocrates as I used to read it carved in marble in the quadrangle of Harvard Medical School:

Life is Short
The Art is Long
The Occassion Fleeting
Experience Fallacious
Judgment Difficult.

Thank you and God Bless!

Remarks Upon Assuming The Presidency Of The Rhode Island Medical Society*

By Herbert F. Hager, M.D.

Thank you for the expression of confidence in me that you have shown by electing me President of the Rhode Island Medical Society. Through the years, the needs of the physicians of R. I. have changed, and consequently this Society has also changed. We are an entirely different type of organization now than we were when most of us joined. With the changing environment in which we practice a new type of leadership is expected by the members. I hope that I can fulfill the expectations of at least a majority of the society's membership.

When you elect one of your members to this office, you place him in service for a full seven years; as President-Elect, President, Immediate Past President, and then for four more years of service on the Council. During that time he must often speak for the majority, and for the policies as voted by the House of Delegates and the Council, even though those policies and positions may differ from his own beliefs and inclinations. I ask you to remember this and not vent your displeasure on any of your past or future elected officers. Do not revert to the old uncivilized practice of destroying the bearer of bad news simply because it was his duty to deliver it.

I am sure that each Past President has felt on assuming this office that he was unfortunate in being selected at a particularly difficult time, a time when more controversial issues were pressing for solution than ever before. This certainly seems to be true to me today. However, if the challenges to us are greater today, then so also are the opportunities. We are at war with bureaucracy. We can win our battles in that war if we are united in our common objectives. Our goals are the same ones as were envisioned when this Society was incorporated in February 1812. They were and are to promote the science and art of medicine, the betterment of the public health, to promote friendly intercourse among physicians, and to enlighten and direct public opinion in regard to the problems of medicine.

*Delivered at the 165th Annual Scientific Assembly of the R.I. Medical Society, May 5, 1976.

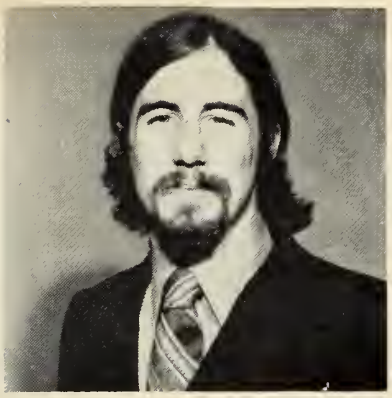
In our "Ocean State" we have a strong seafaring heritage, but I do not visualize us as going to war in a great Polynesian war canoe of a Roman galley with all members stroking in unison on command. I would rather consider the analogy of a giant flotilla of various types and sizes of vessels, each with its own command and crew. Those in sailboats could certainly proceed toward the common goal on different tacks, while the power boats could steer a more direct course. All vessels would proceed at their own speed, including those who chose to paddle their own canoes.

The Society would have to assume the many roles necessary to guard the armada from destruction or defeat. The general direction must be chosen based on reconnaissance, on reports of enemy activity, on weather forecasts, and on knowledge learned by those who have studied the problems ahead. There would be need for instruction in the aids to navigation, and help for those lost in the fog, caught in the whirlpools, and aground on the rocks and shoals.

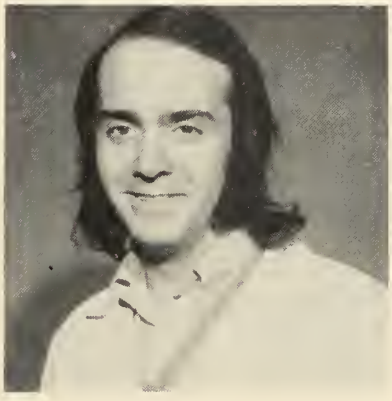
The armada would have to rendezvous from time to time to exchange experiences and views and to chart a new course based on common consent. In the storms ahead, and through certainly troubled and uncharted waters, this is no time for any of us to abandon ship, leave the fleet, or to try to go off swimming alone.

If there was ever a time for a strong medical society it is now, with every physician and every student-physician in R. I. a member.

The Society is not the officers, nor is it at the Medical Library on Francis Street in Providence. The Society is its indivdual members, and its location is in each and every office of those members. I am proud of the physicians of R. I. and of this Society. We all have an enviable heritage to live up to, and future generations will find that the present membershap has fulfilled its trust through service to the people of Rhode Island.



ROBERT PARKER, Brown University, Roger Williams General Hospital, Medicine.



ROBERT ALEXANDER, Rochester University, Strong Memorial Hospital, Psychiatry.

MANUEL S. FARBER, University of Pittsburgh, Montefiore Hospital, Medicine.

DEBORAH ALBERT, University of California, Los Angeles, University Hospital, Surgery.

WILLIAM STONE, Brown University, The Miriam Hospital, Medicine.

DELPHINE HO, University of California, San Francisco, San Francisco General Hospital, Flexible.

JOHN D. ABRAMSON, University of North Carolina, North Carolina Memorial Hospital, Family Practice.

VIRGINIA PARKER, Brown University, Rhode Island Hospital, Medicine.

MICHAEL NICHOLS, Washington University, St. Louis Childrens Hospital, Pediatrics.

PHOTOS NOT AVAILABLE:

THEODORE BASS, Mayo Graduate School, Mayo Clinic, Medicine.

FRANCIS DOMURAT, State University of New York, Edward J. Meyer Hospital, Medicine.

JOHN FERR, Columbia University, Presbyterian Hospital, Pediatrics.

H. STEVEN NELSON, Loma Linda University, San Bernardino Medical Center, Flexible.

Editorials

CLASS OF 1976

For the second year in succession we are devoting the entire May issue of the **Journal** to the graduating class of the Medical Program in Brown University. A year ago we honored the first class in almost 150 years to be awarded the M.D. Degree by Brown. This year we salute the first class to have entered the Program with the assurance that its members could obtain their degrees at the University.

The Medical School, an excellent institution, is now firmly established in our midst. Several hospitals in the metropolitan area have become first-rate teaching centers through their affiliation with the University. The full gamut of medical care, almost without exception, is now available within the confines of our small state. Resident training programs in all specialties equal to the best are offered. The graduates, many of whom plan to stay in Rhode Island for their postgraduate training and many to practice here as well, have generally been admitted to top quality training programs.

In this Bicentennial Year it is fiitting that our Medical School has come of age. We are proud to welcome the class members to our pages and congratulate them upon entering the ranks of our beloved profession. We wish them every success.

UNNECESSARY SURGERY

In January of this year **The New York Times** ran a widely quoted series of articles "exploring the problem of incompetent doctors" and challenging the medical profession to prove its overall competence. Based on a single study by a Cornell University group published in 1974,[1] the **Times** concluded that nearly 2.4 million unnecessary operations are performed each year. This includes 260,000 hysterectomies and 500,000 tonsillectomies, resulting in 11,900 deaths yearly. The study on which these projections are based was carried out by McCarthy and Widmer[2] and published in the **New England Journal of Medicine.** If true, of course, these statistics would represent a scandal of major proportions. McCarthy, in testimony before the House Committee on Oversight and Investigations, alleged that, based on their study, there was an incidence of 24 per cent of unnecessary surgery in the United States. It was by extrapolation from this percentage that the **Times** reached the figure of 2.4 million.

Ralph Emerson, President of the Medical Society of the State of New York, states categorically that the figure of 24 per cent is a myth. McCarthy's study was based on a report for the Storeworkers' Health and Welfare Fund Locals 2, 3, and 5, and District Council 37 of New York prepared in 1972. In this study consultations were required on elective surgical procedures within two weeks prior to scheduled hospitalization. If the Storeworkers' Union member did not comply by sending in a pre-surgical form to the Union office followed by a surgical consultation, their plan would not pay the surgical or hospital bill. The District Council 37 plan was voluntary. The consultant disagreed with the original physician in 24 per cent of cases and

an additional 2.1 per cent allegedly did not require hospitalization. The conclusion that 24 per cent of surgery is unnecessary because of a differing opinion in that percentage of cases is based on a false premise and is therefore illogical and unscientific. As pointed out by Emerson, the peer consultation concept has been discredited as a method of quality evaluation of medical and surgical care. A study by Richardson[4] of Rochester, New York revealed a 33 per cent difference of opinion when done on a single consultation basis, a disagreement of such magnitude as to provide "a poor base on which to build any final correct judgment system."

The Commissioner of Health of New York State requested assistance from the Medical Society of the State of New York. In response to this request a study under the chairmanship of Emerson was carried out. Participating in the study were the State Society, the Brooklyn-Long Island Chapter of the American College of Surgeons, and several state specialty societies, with assistance from the area medical schools. The project, completed in 1974, embraced 1,900 diagnoses and 3,800 procedures. Officials of the U. S. Department of HEW characterized the study as the most comprehensive thus far carried out.

The preliminary phase, based on carefully planned, statistically sound, and sophisticated methods, was conducted in 12 hospitals and involved the retrospective review of 833 operations in 13 categories, but excluding at this time tonsillectomies and hysterectomies. The incidence of unjustified surgery in these 833 consecutive cases was less than one per cent.

When the review of hysterectomy, tonsillectomy, and other common operative procedures is added, according to Emerson, the incidence of unjustified surgery will probably increase a few percentage points. Emerson cautions that this study should not be used as a national average, anymore than should the study of McCarthy and Widmer.

Emerson states: "We will not know the true incidence of unjustified surgery if we depend on the unscientific difference of opinion concept as the criterion for unjustified surgery," as quoted so extensively in the news media.

What is needed are more carefully conceived studies, such as that of Emerson. While his results have not had the mass news impact of others producing horror stories, however unfounded, it is only through the careful accumulation and sound analysis of data that the truth will emerge. We can be thankful for this study and hope that it will continue and that others will follow.

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CANCER AND CAUTION

It has become a custom of the American Cancer Society to report to the press the fruits of its research support each Spring. This year there are optimistic announcements of combined therapeutic regimens which at least preliminarily offer hope for the cure of early breast cancer by lumpectomy, grouped chemotherapeutic agents, and intensive radiotherapy. Also there is exciting news of significant improvement in the treatment of the undifferentiated oat cell carcinoma of the lung, using a similar approach.

Yet, one must express concern that the reading public become prematurely overly optimistic and choose minimal surgery, thus avoiding stress and disfigurement, and resist the recommendations of their doctors. Preferably, decisions for treatment should be made by well-trained and experienced physicians, and it would seem sensible to continue with established procedures until there is statistically convincing proof of improved results by combined therapy.

Indeed, should the initial observations subsequently prove misleading and disappointing, the deleterious effects on the health of our people and to the reputation of our scientists would be ruinous. Caution appears to be the better part of wisdom.

Herbert Fanger, M.D.

Editor's Mailbox

To the Editor:

I felt I should share this with our readers:

Dear Helen:

I want to congratulate you on the well-deserved tribute in this month's Journal (March 1976). I, of course, read my little sketch. I am not proud of it and think it didn't deserve printing.

I have lived nearly 5 years more. If I reach 100, I will send you an experiment report. For over 10 years I have taken a little B12 every day as it has a little growth promoting power and because the dissolution of old age is due to failure of cells to grow to replace the old ones that die. With best wishes,

Harold G. Calder (M.D.)

Helen E. DeJong

BROWN MEDICAL SCHOOL AND THE RHODE ISLAND COMMUNITY

(Continued from page 202)

of Obstetrical Services, 2. Alcoholism in the Hospital, 3. Alcoholism in the Young, 4. Curriculum Design of a Medical Student Course on Alcoholism, 5. Death and Dying in the Rhode Island Community, 6. Care of Stroke Victims in Rhode Island, 7. Mental Health Services for Children in the State, 8. Medical Malpractice, 9. Hypertension, 10. Long-term Care of Adults and Children, and 11. Drug Addiction in Rhode Island.

Each of these group projects, most reports of which are available through the Section of Community Health, was designed to motivate the student toward involvement with agencies and individuals in the community. Oftentimes, this might be an agency's first contact with the Brown Medical Program, and in many instances, the student(s) would serve a catalytic role in provoking new thinking or merely in showing outside interest in the agency's function. According to Doctor Albert F. Wessen, Chairman of the Section of Community Health, the impact of these projects on the Rhode Island community is difficult to evaluate. Attempts have been made consistently to send project reports to potentially interested individuals, but, according to Doctor Wessen, it has not yet become possible to obtain formal follow-up on the utilization of these reports. It may, however, become feasible to attempt such follow-up in the not-too-distant future. In any event, these projects have certainly served the function of making large numbers of people aware of the medical school's interest in the community with the students acting as representatives of the school.

A final potential role of medical students still in its early development stages, is that of direct public service outside of patient care and includes education of the lay public in health-related matters. Several examples of this may be cited, including various student-coordinated blood drives, a hypertension screening effort held at the Opportunities Industrial Center (OIC),[8] and the large turn-out of student volunteers during the strike at the Rhode Island Medical Center. Illustrative of a purely educational function was a seminar on venereal disease given by a group of medical students to the junior class at LaSalle Academy. This was a day-long project, which utilized films from the State Health Department. The Academy expressed interest in calling on the medical school again for such a function. Another pair of students spoke to a group of Explorer Scouts who had expressed interest in pursuing health-related careers. One student spoke to a senior English class at Cranston West High School as part of a class project on aspects of death and dying. These experiences appear to be not only valuable to the community, but also extremely worthwhile for the medical school and the individual students in that they have an opportunity to teach.

In light of this, it may be of value to consider setting up a speakers' bureau of medical students who are interested in speaking on health concerns to various groups in the community. Is seems that any encouragement of student involvement in community projects of this nature can only serve to breed physicians with sensitivity to community con-

cerns. This sort of personal contact will reflect the medical school's interest in the Rhode Island community in health as well as illness. Thus, in sum, while the value of medical students is not readily visible to the state at large, their individual worth in interpersonal interactions with members of the community has seemingly limitless potential both educationally and in the sense of community service.

SUMMARY

It is difficult to summarize an article which is, in most ways, a set of summaries of very complex matters.

While it is true that students usually come to mind when one thinks of a medical school and they are indeed basic to it, most of the activities of such an institution do not revolve around the students. However, it is the total production of the "learning experience" which has impact in stimulating organization of care which yields greater ability to provide high quality service. Acknowledging, as did William Carlos Williams, that we could not live without medicine, this paper is an attempt to study the potent interdependence which has developed between the Rhode Island community and the Brown Medical Program, to try to analyze the direction in which this is going, and their relative merits. There is no pretense of completeness, since many subtleties have been touched only lightly and many factual details have not been included for the sake of space. Rather the intent is to offer an overview of and feeling for the many interfaces between the medical school and the community, and this has hopefully been, in part, accomplished.

Sincere thanks for their time and thoughts are extended to Mr. Levi C. Adams, Mayor Vincent A. Cianci, Jr., Doctor Herbert P. Constantine, Doctor Pierre M. Galletti, Doctor John S. O'Shea, Mr. John T. Tierney, and Doctor Albert F. Wessen.

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BROWN UNIVERSITY PROGRAM IN MEDICINE, CLASS OF 1976

(Continued from page 208)

goals when they were younger than ten years of age. An additional 31 students reached this decision prior to entrance to college. The remaining 21 students remained apparently undecided until their early years of undergraduate college.

They were also asked whether they had ever seriously considered alternative careers. Twenty-two members of the class said that medicine was the only career which they had seriously considered, while 38 students acknowledged that they had indeed considered (or had actually entered) other professions. The latter students listed such varied fields as psychology, teaching, ballet, forestry, creative writing, music, cabinet-making, law, biological research, journalism, and social work. Members of the class had been gainfully employed in teaching, biomedical engineering, sociology, psychology, and printing prior to their matriculation in the Brown University Program in Medicine.

The class of 60 men and women represents the convergence of many groups. Some came to Brown seven years ago to enter the Master of Medical Science program; this brave cadre had no assurance in 1969 that an MD program would ever be instituted at Brown. Another contingent entered in 1972 following conventional baccalaureate education completed at a variety of campuses. One student joined the class in 1973, transferring from another medical school in New England; eleven were accepted in 1974 as advanced standing transfers to complete the class as finally constituted.

(Continued on next page)

The class of 1976 has contributed substantially to the committee activities of the medical school and to the sound relationships which prevail between the faculty, students, and administration. This class has indeed left its imprint upon the prevailing philosophy at the Brown medical school. They will be truly missed.

CARE OF THE CHRONICALLY ILL: PLANNING FOR PROGRESS

(Continued from page 217)

pending upon whom they perceived as the patient, the elderly chronically ill person or the disrupted family member.[41] The sum of these vectors in our society is towards custodial institutionalization, as Kastenbaum and Candy have pointed out,[42] the likelihood of an older person entering an institution of some type during his life is at least one in five.

Discharge rates from long-term care institutions are very low. In part this is a result of a lack of alternative modes of service delivery but the small number of people who emerge from these facilities reflects also the custodial and supportive focus of most institutions which encourages patient dependency. Restorative goals and a rehabilitative philosophy, supported by appropriate personnel and programming, might result in more dynamic care and higher discharge rates to the community. Proper organization and expansion of community-based human service systems would make it possible to avoid institutionalization in many instances and would enable communities to support larger numbers of patients discharged from institutions.

Although there have been some studies which have demonstrated economic benefits to be derived from rehabilitation programs, it would be difficult to justify a more dynamic restorative approach to long-term care on the basis of benefit-cost methodology alone. Beyond the vocational model, it is impossible to place a dollar value on many of the outcomes of rehabilitation programs. If, in some instances, it becomes apparent that costs exceed material returns, it would be helpful to have prior agreement among payers, providers, and patients on program objectives and goals. **Cost effectiveness** analysis, in which there is prior agreement on specific program objectives or outcomes and the effectiveness of the program is measured against these objectives, might ensure efficient utilization of funds expended. Outcome evaluation could be a valuable tool in monitoring the effectiveness of therapy; methods for conducting such evaluation have been developed.[43]

SUMMARY

Chronic illness and long-term physical impairment are major and expanding health problems in the United States. The response of the health care system to these problems has been based principally on custodial care in long-term institutions. The cost of this type of care has increased progressively, and simultaneously satisfaction with the system of care and its results has declined.

Long-term care involves a multiplicity of institutions, agencies, and programs which are poorly coordinated. A coordinating mechanism is needed.

Long-term care has been principally custodial and crisis interventionist. As long as it remains thus, institutional populations will rise, and the long-term care "system" will fail fulfill its potential in the treatment of persons with chronic illness and functional limitation.

A reorganization of the "system" toward community-based services with a rehabilitative orientation should be worth any additional initial investment it might entail and, in the long run, could be more economical.

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(Continued on page 240)

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(Continued on page 241)

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Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

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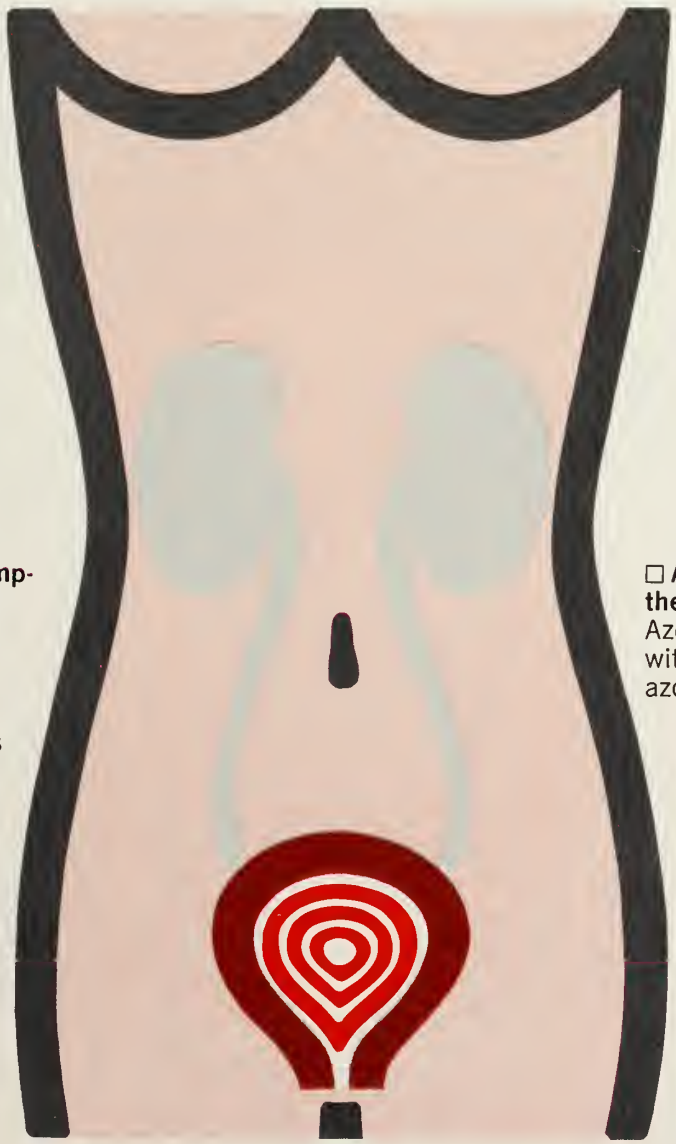

☐ **Early relief of painful symptoms** such as burning and discomfort associated with urgency and frequency.

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Warning
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

***Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

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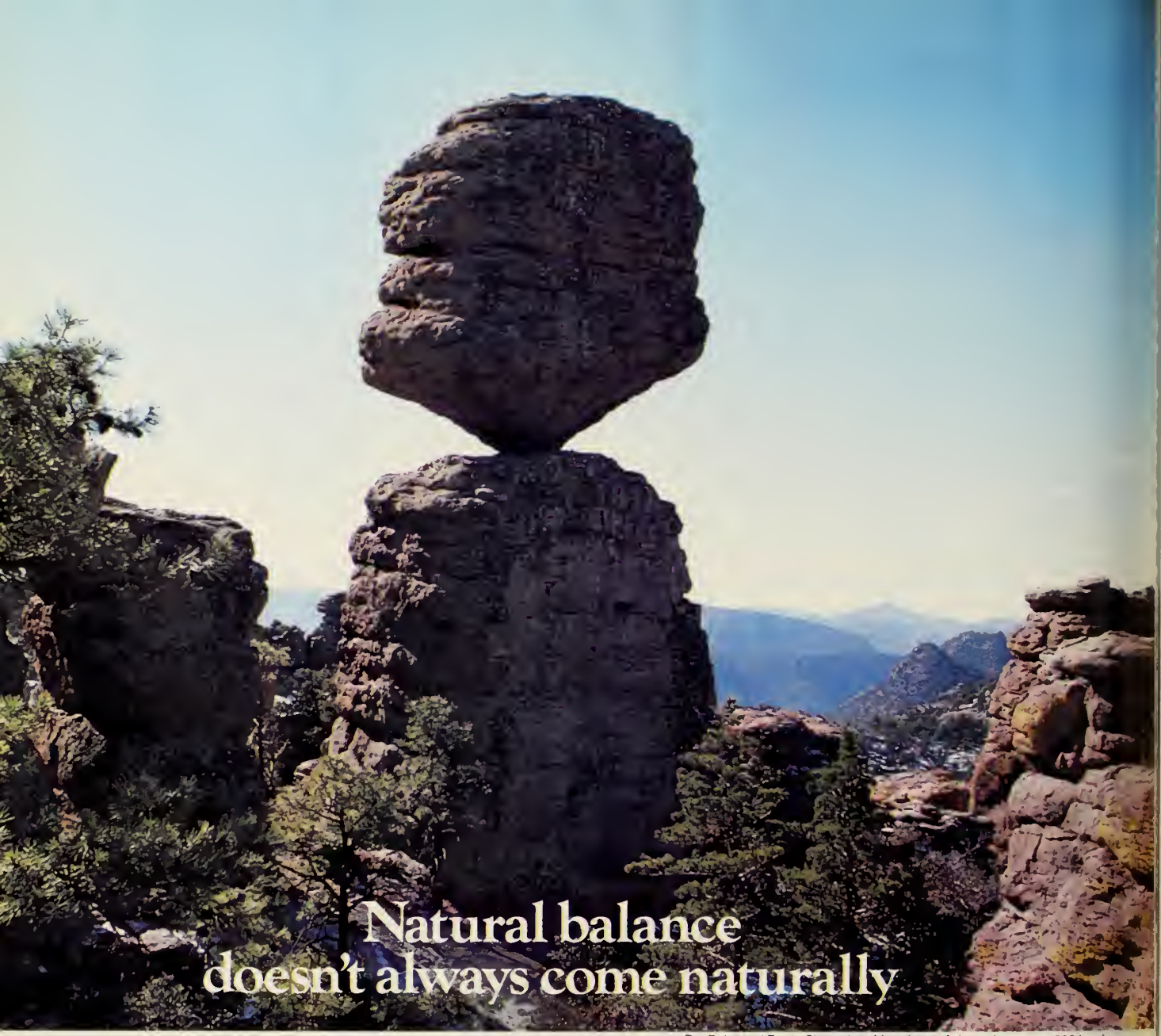

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BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective. Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children. Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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A BICENTENNIAL VIEW OF CHILDREARING

(Continued from page 223)

AUTHOR'S POSTSCRIPT

Some things in New England do not change. I was struck with this when discussing this review with a student research assistant. She, of this generation, remembered her father's daily greeting, "Good morning, my dear, another day in which to excel." And I from an earlier generation, recalled the all too familiar words that began the day in my grandfather's house, "Let us then be up and doing/ With an eye to any fate, Still achieving, still pursuing/ Learn to labor and to wait."

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MEDICAL EDUCATION ABROAD

(Continued from page 227)

quired to do a thesis on original research in order to graduate.

Most Americans studying within the French medical system take the E.C.F.M.G. exam in the fifth or sixth year. Approximately 60 per cent of the students pass this the first time, and almost all pass it the second time. This is the exam that allows graduates of foreign medical colleges to practice medicine in the United States. Americans try to transfer back into the American system after the third year by taking the COTRANS exam. As far as I know, not one American from Montpellier has succeeded in transferring because study of the basic sciences is not yet completed.

Many factors easily can lengthen the seven-year period for a foreigner. Most Americans do not speak the French language fluently and are not accustomed to the cultural differences. Adapting oneself to this new culture where very few people speak your language and do things the way that you do is no easy matter. As a first-year student, you very quickly find out that there are about 2,000 others in your class competing for 350 places in the second year. If you don't speak the language and have trouble taking care of day-to-day living, your chances are not high, especially when you consider that a large proportion of the class is made up of those who have not been promoted from the year before.

Studying overseas is a tremendously trying experience. Of course there are schools in other countries that are not like this one, but I would strongly urge anyone considering this course to investigate thoroughly all aspects of the particular schools involved. When I questioned the French consulate in New York about the curriculum and student life, I was given only a small pamphlet describing the curriculum in the most general terms.

My advice to anyone considering going overseas to study medicine is to be fully aware of the sacrifices required to get a foreign medical degree. I would suggest choosing a school with a somewhat large American population of students, because they will help you enormously with your initial period of adaptation. Moreover, the administration of

the school is apt to be more responsive to the needs of the American population. You must also be aware that graduating from a foreign school does not guarantee that you will be able to practice medicine in the United States. The prospect of going back in October to spend another six years in Montpellier is very distasteful, and I have many hopes and plans that I will be able to complete my education at an American school. That dream is something that I certainly share with all American students in my situation.

⚓ ⚓ ⚓

ONE SENTENCE ESSAY

Every man has a right to his opinion, but no man has a right to be wrong in his facts.
. . . Bernard Baruch

(Courtesy, **N Y State Journal of Medicine**)

⚓ ⚓ ⚓

Report Of The House Of Delegates

A special meeting of the House of Delegates of the Rhode Island Medical Society was held at the Medical Society auditorium in Providence on Wednesday, March 31, 1976. The meeting was called to order by the speaker of the House, Doctor Thomas F. Head, at 8:15 p.m.

Delegates in attendance were: Doctors Peter Baute, Jacobo J. Fijman, Joseph R. Peltier, H. Gerald Rock, William F. Varr, Oswaldo R. Velis, Edward Asprinio, Charles P. Shoemaker, Robert Burroughs, David Hallmann, Nathan Sonkin, Richard Kraemer, Erwin Siegmund, Francis L. Scarpaci, Leonard S. Staudinger, Stephen J. Hoye, Herbert F. Hager, Charles B. Round, Frank W. Sullivan, Orlando M. Armada, Alphonse R. Cardi, Joseph E. Caruolo, George E. Charon, George N. Cooper, Dominic L. Coppolino, John E.

(Continued on next page)

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Delegates absent were: Doctors David Newhall (excused), George Lewis, Richard Zuerner, Robert Fortin (excused), Paul J. M. Healey, Richard Kuhn (excused), James McGrath, Louis Morrone (excused), Patrick Levesque, Philip J. Morrison, Nathan Chaset (excused), Paul Calebresi (excused), George V. Coleman, Frank DeLuca, John A. Dillon (excused), William Klutz, Joseph Lombardozzi, Vincent I. MacAndrew, Raul Nodarse, and Joseph E. Cannon.

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Commissioners in attendance were: Doctors Leonard S. Staudinger, Thomas F. Head, Kenneth Liffmann, Joseph E. Caruolo, and Melvin Hoffman.

The Specialty Society representatives in attendance were: Doctors Daniel Moore, Marshall Taylor, Henry Litchman, James B. Leach, Wilson F. Utter, William F. Varr, Guy A. Settipane, Arthur I. Geltzer, Charles L. Hill, Joseph E. Caruolo, David M. Barry, Simon Blumen substituting for Charles E. Millard, Hisaschi Tamura substituting for James R. Kurtis, and Louis A. Fragola, Jr. substituting for Bencel L. Schiff.

Specialty Society representatives absent were: Doctors Kenneth Nanian (excused), Charles E. Millard (excused), James T. Kurtis (excused), Louis V. Sorrentino, Richard Peters, and Bencel L. Schiff (excused).

Also present were: The Honorable J. Joseph Garrahy, Lieutenant Governor of the State of Rhode Island, Dan Crane, Mike Ryan, Attorney Charles L. Clapp, Attorney Charles Butterfield, Jr., Joseph Shanley, Robert E. Liguori, Director of Business Regulation, Tim Norbeck, and Jim Clarkin.

APPROVAL OF MINUTES OF PREVIOUS MEETING

The speaker noted that the minutes of the March 10 meeting of the House had been printed and distributed by the secretary.

Action: A motion was made, seconded, and voted that the minutes of the March 10 meeting be approved and placed on record.

RECOMMENDATIONS OF THE COUNCIL

1. Woman's Auxiliary

The Council recommended to the House that the word "Woman's" be dropped from the name 'Woman's Auxiliary to the Rhode Island Medical Society."

Action: A motion was made, seconded and voted that the name of the Woman's Auxiliary to the Rhode Island Medical Society be changed to the Rhode Island Medical Society Auxiliary.

2. Noting that Commissioner Thomas F. Head, M.D. would continue service on the Council of the Rhode Island Medical Society by virtue of his recent election as President-Elect, the Council recommended that the House approve the appointment of Donald P. Fitzpatrick, M.D. to replace Doctor Head as the new Commissioner.

Action: A motion was made, seconded and voted that Donald P. Fitzpatrick, M.D. be named as the new Commissioner replacing Thomas F. Head, M.D., President-Elect.

President Hoye announced that the purpose of the special meeting was to formalize the Society's position on the recommendations of the Governor's Commission on Malpractice. Copies of the legislative proposal had been distributed to the delegates. Remaining copies were made available to other members of the Society present. The President announced that the Lt. Governor had requested permission to address both the Council and House meetings regarding this proposal.

President Hoye gave a complete resume of the workings of the Governor's Commission on Malpractice using a blackboard chart he had devised to indicate what he considered as gains and losses to the medical profession in the final legislative package. He stated that in his opinion, considering the make-up of the Commission (medical, hospital, insurance, consumer, and legal representatives) the make-up of the General Assembly, and the political climate in the state, the medical panel had succeeded in obtaining some of the important changes the profession wanted. It was recognized while all the changes desired and fought for were not obtained, overall, the entire package represents an acceptable and workable beginning which, hopefully, can be improved upon in coming years.

Lt. Governor Garrahy, Chairman of the Governor's Commission on Malpractice, was introduced to the House. He praised the work of the physicians on the Commission, noting that opposition to many of their proposals was unmoving, but felt that there had finally resulted a final recommendation with a little bit of "castor oil" for all parties. He recognized, as did others, it would not solve all problems nor guarantee the return of insurance companies to the state, or result in immediate reductions in malpractice insurance premiums. In his opinion, however, this package if passed by the General Assembly without substantive changes represented a base upon which further improvements could be made. He was emphatic in stating that if substantive changes were made in the proposal

(Continued on next page)

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by the General Assembly he would withdraw his support of the package. In the event this happened, he could not guarantee, but would urge the Governor's veto of the bill. He announced that he did not, as of this moment, anticipate any great difficulty in its passage through the House of Representatives. However, he could not guarantee as to any action the Senate might take, and for this reason strongly recommended that every physician begin immediately contacting his senator, by phone, in person, or by mail and urging their patients to do likewise to pass this bill as it was presented. In closing he urged the House of Delegates, representing the Rhode Island Medical Society, to formally endorse this legislative package. The Lt. Governor spent over three hours either addressing or answering questions posed by the delegates and other members.

Following the departure of the Lt. Governor, President Hoye introduced Robert Liguori, Director of Business Regulation for the State of Rhode Island. Mr. Liguori announced that he was seriously considering making the JUA non-exclusive. He could not guarantee that this would happen since much work is required to determine what effect such an action would precipitate rates, the Director replied that no prediction could be made at this time, although he felt that there would be no decrease. He emphasized that if the JUA seeks a rate increase, a public hearing would be held and justification for such increase must be made.

Doctor Rock presented slides proposing an alternative method of providing malpractice insurance. Under this proposal each physician would purchase coverage of 100/300 thousand based on occurrence and all insured physicians would guarantee payment in excess of these amounts. It was agreed that this method appeared attractive, but concern was expressed by many as to whether the appeal of only having to purchase 100/300 thousand might greatly diminish or even vanish if the insureds were required to contribute to an award exceeding this amount.

The President asked the House of Delegates to take a position on the Commission's bill. Questions were raised as to other available options. The President advised that the only option was this bill or nothing during this session of the General Assembly. Suggestions were made that modifications to the bill be forwarded to the General Assembly. Consensus, however, was that any attempt to change this bill would result in the legal panel presenting changes which would be drastic to the medical profession. Regret was expressed that nothing was accomplished in the area of contingency fees and non-economic losses.

Action: A motion was made, seconded and voted that the House adopt the following Resolution:

"The House of Delegates of the Rhode Island Medical Society endorses the legislative proposal of the Governor's Commission on Malpractice, while recognizing that the measures has some shortcomings. The Society urges all members to work for passage of this legislation as it stands. As stated by Lt. Governor Garrahy in his letter of transmittal to the General Assembly, any substantive changes contrary to the objectives of the Commission will nullify the consensus achieved. Such action would necessarily result in the withdrawal of support by the Rhode Is-

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land Medical Society. The House of Delegates is fully cognizant that an ongoing study of the problem is urgently required in order to meet the needs of the people of Rhode Island."

The vote was nearly unanimous, and the above resolution was adopted as the position of the Rhode Island Medical Society regarding the legislative proposal of the Governor's Commission on Malpractice.

ADJOURNMENT

There being no further business the meeting was adjourned at 12:00 p.m.

Respectfully Submitted,
CHARLES B. ROUND, M.D.
Secretary
Rhode Island Medical Society

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Book Review:

TALK BACK TO YOUR DOCTOR by Arthur Levin, M.D. New York, Doubleday & Co., Inc. 1975. 245 pages. $7.95

Doctor Levin couldn't make up his mind whether to write a medical care manifesto (from the Left) or a patient's handbook. His second book, but doubtless not his last, embodies the overripe fruit of that indecision. TALK BACK tried, but alas, failed to convince this layman that doctors are, in general, anything but above-average human beings doing an above-average job with above-average results.

The relatively few, ostensibly true, case studies cited as examples of how physicians misdiagnose, mistreat, and, above all else, misrelate to individual patients provide less than convincing evidence that doctors aren't doing their job. Nor was I altogether impressed by the matter-of-fact way in which Levin promotes the implied, innate superiority of large,

(Continued on next page)

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medical school-affiliated teaching hospitals or group practice arrangements.

The basic premise of the book is that patients: A. don't know enough about what constitutes high quality care and B. don't have the nerve to ask direct questions. Maybe what inhibits patients from asking direct questions (B) is A. But why speculate? Consider this brief excerpt, exemplifying enlightened patient and progressive physician, à la Levin:

Principle: You should ask your doctor about the need for every x-ray examination. You should ask him about the dosage involved. "Are these x-rays really necessary?" This query, on your part, will convey to your physician your concern about unneeded x-ray examination. It will make him reconsider his decision to obtain x-ray films. It will make him think twice.

I mean, really! Earlier in the book, Levin tells us in painful detail how to go about selecting a doctor: on the basis of his board status; academic training; type, length and location of residency; minimum of three journal subscriptions; compassionate or no; and more of the same. On top of that, Levin also forwarns us to have x-ray studies carried out and read only by board-certified or board-eligible radiologists.

Assuming we read all this advice on how to choose a doctor, one would be paranoid to stop everybody in the radiology department to ask what genuinely amounts to dumb questions about the need for examination and the qualifications of the radiologist. And I shudder to think what caliber of physician, would, at that point, seriously reconsider the need for x-ray film.

The author does rehash some oft-heard and apparently true arguments against unnecessary surgery, citing, as do others, hemorrhoidectomy, tonsillectomy, dilation and curretage of uterus, and hysterectomy. He also points to the fast-shuffle given some female patients by some male physicians. And, of course, he implies doctors should do a lot more hand-holding.

I am pretty much skipping any extended reference to Levin's generous offering of "tables" and "lists" of what constitutes a good physical exam, or how babies should be cared for, or which diagnostic tests are risky and which aren't. Personally, I defer greatly to physicians — good physicians — when the crunch is on. As physicians, however, you may like (or dislike) some of the configurations.

As physicians, you will no doubt be greatly interested in Levin's suggestion that there be government-mandated "audits" of how you do your job, in your own office, on your own patients. These "audits" are to be done first hand, even by non-physician observers, who can "do this kind of thing quite well." Oh yes, Levin will give your blood pressure a boost, doctors.

But I would urge you in other directions than toward this book. Consider for example, a plainly printed profession of your faith in medicine and ethics, a framed statement for your waiting room, maybe. It could say something like:

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to every question, but I try my best. So please — don't hesitate.

You might even jot any questions you have on a piece of paper before we meet. And remember: there is no such thing as a "foolish" or a "dumb" question when it comes to your health or the health of someone you love.

Sincerely,
Doctor's Signature

If Levin's book does anything, and I'm obviously not sure it does, it may serve to remind busy, clinically-oriented physicians that patients are feeling, fearing people, a dose-and-a-half more than they are complex, living organisms. Otherwise, this is a tedious book.

Wally Pickford

⚓ ⚓ ⚓

TEXTBOOK OF BASIC EMERGENCY MEDICINE. Edited by Robert H. Miller, M.D., in collaboration with James Cantrell, M.D. Saint Louis, The C. V. Mosby Company, 1975, 233 pages, $6.95

Emergency department visits have increased at an approximate rate of 10 per cent a year for the past twenty years. At the present time almost one third of the United States population, or 70 million people a year, are seen in hospital emergency rooms. With this rapid proliferation of emergency services, the end of which is not yet in sight, there has been a parallel increase in the publication of textbooks on this recently accepted new medical specialty, emergency medicine. Almost every aspect of emergency services from design, organization, and administration to the minutest detail in the diagnosis and treatment of all the ills of emergency patients is now available in print.

This publication, edited by an internist in collaboration with a surgeon, is directed primarily toward the emergency paramedic. As is stated in the preface, because of the emphasis on the pathology of emergency disease processes, the contents are of value also to the medical student, nurses, and physicians as well as the paramedics.

(Continued on next page)

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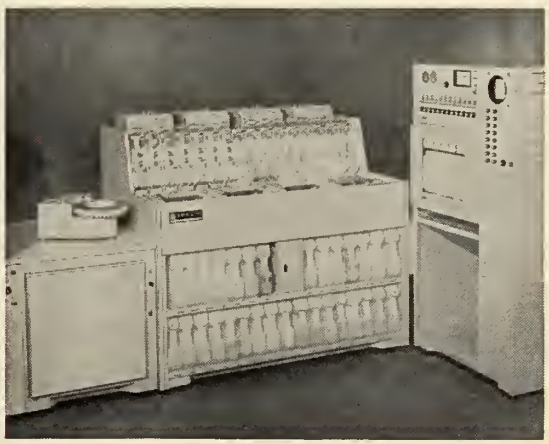

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The text is a paperback consisting of 233 pages of easily readable print with 184 illustrations.

Part I consisting of sixty-six pages and seven chapters is devoted to "Emergencies Involving the Heart." In the first chapter the gross and microscopic anatomy of the heart and lungs is reviewed as are the dynamics of the circulatory and respiratory systems.

The remaining six chapters in Part I include the pathophysiology of congestive heart failure and myocardial infarction, the physical diagnosis of the cardiopulmonary system including the basics of electrocardiography, the arrhythmias, and lastly specific therapy of cardiovascular emergencies. As a surgeon perhaps I feel that the book's emphasis on cardiopulmonary problems is out of proportion to all other clinical emergencies. These are discussed in Part II, which includes the other common medical problems as well as surgical, pediatric, orthopedic, gynecological, urological, neurological, ophthalmological, and psychiatric emergencies. A chapter on accidental ingestion and poisonings and a chapter on triage and disaster management conclude the text.

Emergency department staffing varies from hospital to hospital. In most university affiliated emergency departments house officers assume this responsibility. In many community hospitals the attending staff including specialists are assigned on a rotation basis. More and more emergency rooms, however, are staffed by contract or salaried physicians trained in emergency medicine. Whichever of the above patterns of staffing prevails it is still most essential to have readily available in the emergency room a small library for reference, as no physician can know all the answers in a specialty which requires knowledge of all the other specialties and subspecialties in the field of medicine. "BASIC EMERGENCY MEDICINE" would be an asset in any emergency department library as a reference which undoubtedly would appeal primarily to the emergency staff personnel below the physician's level. Because the text describes in some depths the pathophysiology of emergency conditions, the emergency department physician who has the responsibility for training these individuals would also find it a useful teaching resource.

For those readers interested in an emergency department library a sample reference library for the emergency department has recently been published in the "Journal of the American College of Emergency Physicians and the University Association for Emergency Medical Services" Volume 5, Number 3, March 1976.

Arnold Porter, M.D.

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PERIPATETICS

(Continued from page 186)

On April 25, 1976 SEEBERT J. GOLDOWSKY was elected to serve as President of the League of Rhode Island Historical Societies. He had formerly served as Vice President of that organization.

* * *

To honor FRANCIS B. SARGENT for his services as a medical consultant, a member of the board of directors and president for six years, the Hearing and Speech Services of Rhode Island, Inc., changed its name to the Francis B. Sargent Rehabilitation Center for Communication Disorders. The Hearing And Speech Services began fifty years ago as a small operation. Under the leadership of Doctor Sargent it grew into a statewide agency that services all people with hearing and speech disorders.

Rhode Island Medical Journal

June, 1976 Vol. 59, No. 6

SPECIAL ISSUE ON CARDIOVASCULAR DISEASES

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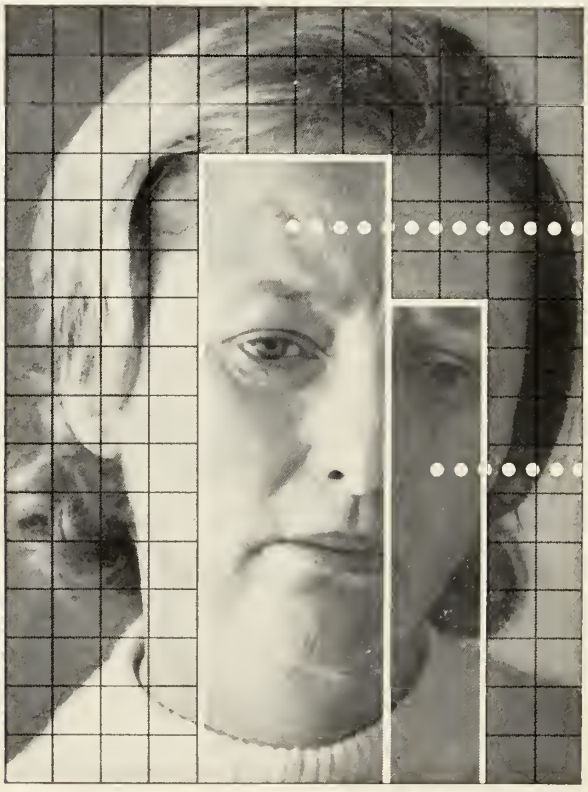

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in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

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Rhode Island Medical Journal

JUNE, 1976 VOLUME 59, No. 6

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The President's Page

LEGISLATION CREATES NEW RESPONSIBILITIES

By Herbert F. Hager, M.D.

The Rhode Island General Assembly adjourned its 1976 session on Friday, May 28, 1976. Among the hundreds of bills introduced and the uncounted amendments considered were many of interest to the medical fraternity. Those bills were sent to the Governor's office for his study, acceptance, or veto. The bill that will effect us most is the Medical Malpractice Act 76 H7796. After a year of study, discussion, dissent, debate, and testimony at committee hearings, the final vote was overwhelmingly in favor of this bill. It has now been signed by the Governor and will take effect September 1, 1976.

Upon further analysis of this act, especially compared to the actions taken in other states, I am convinced that we have been more successful than most other medical societies. The Rhode Island law was formulated to avoid constitutional defects and to prevail against court challenges. Many state medical societies worked long and hard to pass laws and achieve certain apparently desirable goals. These same states have now seen those laws declared null and void. The legality of impeding in any way the right of the plaintiff to a jury trial must always be considered in planning tort reform. The physicians in those unfortunate states must now continue to practice medicine in an environment of ever-increasing litigation, ever-higher settlements, and increasingly burdensome premiums for professional liability insurance.

The dust has settled and the Rhode Island Medical Society will now be required to assume new responsibilities. These include providing expert manpower for the Board of Medical Review which will be composed of four licensed physicians, one hospital administrator, two public members not associated with the medical field (one of whom shall be an attorney), and the Director of the Department of Health or his designee who shall serve as an ex-officio member without the right to vote.

There will be even greater need for expert manpower from all medical specialties to provide the one physician member to serve along with the "special master" and one other attorney to make up each three-man Medical Liability Mediation Panel. This physician must be licensed to practice medicine in this state and will be selected at random from lists submitted by the Rhode Island Medical Society. It is visualized that several panels will be convened simultaneously as each case may require a physician from a different specialty or from general practice. If it is at all possible, the physician selected to sit on the panel shall be a practitioner of the same specialty of medicine as the physician against whom the action is being brought. Now that the bill has been signed the Executive Director of the Medical Society will begin compiling lists of those members of the

(Continued on Next Page)

Society willing to share in this important function and duty with appropriate compensation. The costs of the panels' proceedings shall be borne by the state.

In an effort to keep the membership informed on the important issues of the day, the President's Page of this **Journal** will be utilized from time to time to supplement and reinforce other lines of communication such as special bulletins devoted to a single subject. When the 1976 General Assembly was in session and throughout the past year the Rhode Island Medical Society was "where the action was." I should like to thank all the officers, members of commissions and committees, and individual society members who set personal interests aside to devote their time to serving the health care interests of the people of Rhode Island.

I am most concerned that in this year, when the Rhode Island Medical Society and the American Medical Association have worked diligently and successfully in the interests of the medical fraternity, a number of physicians have failed to pay the special assessment voted by the House of Delegates for the purpose of seeking tort reform and otherwise alleviating the malpractice crisis. It is even more disturbing that a number of physicians may be dropped from the state and national organizations for failure to pay dues. Organized medicine speaks for all the physicians in this country whether they are members or not. Anyone who is not a member cannot expect to keep updated on the medical, socioeconomic, and legal aspects of contemporary medical practice. Anyone who does not pay his assessment and dues obliges his colleagues who are members to pay increased dues and to bear that portion of the burden which is rightfully his.

It should be apparent to all, especially during these trying times, that animosities and apathies existing within our organization should be cast aside. In their place all of us must be willing to contribute our time, energies, and financial support to ensure a strong and united Rhode Island Medical Society.

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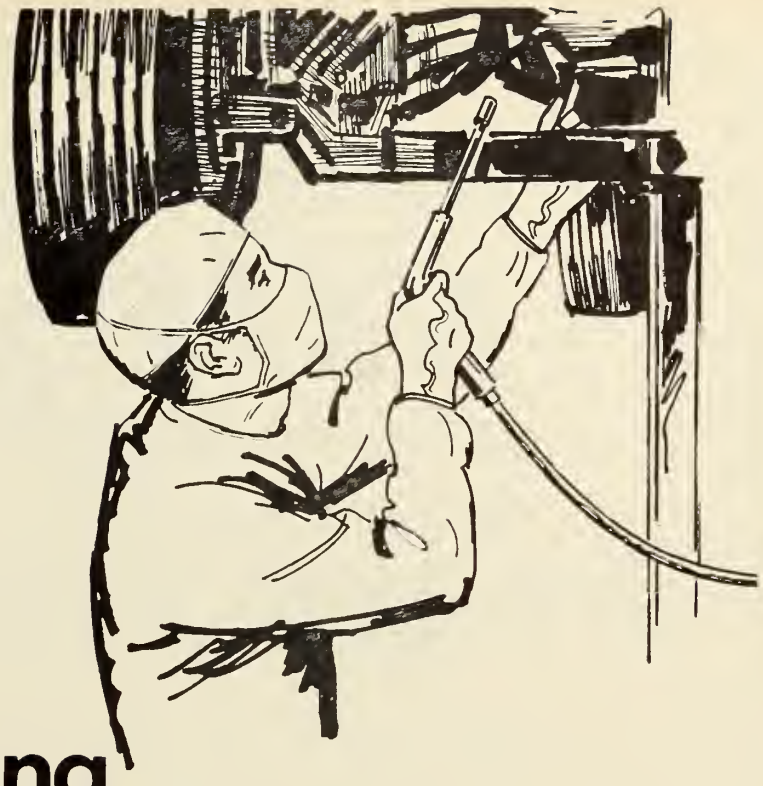

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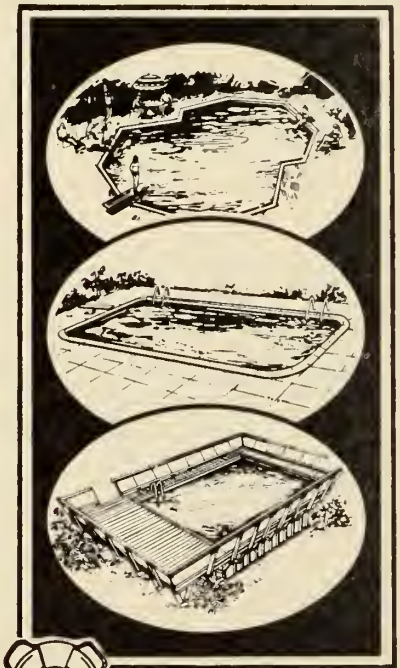

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Testing in Humans: Who, Where & When.

the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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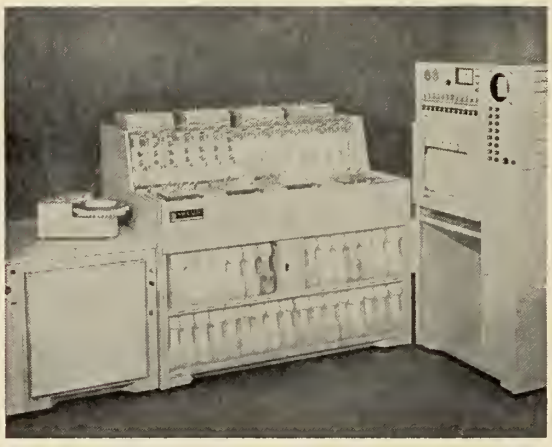

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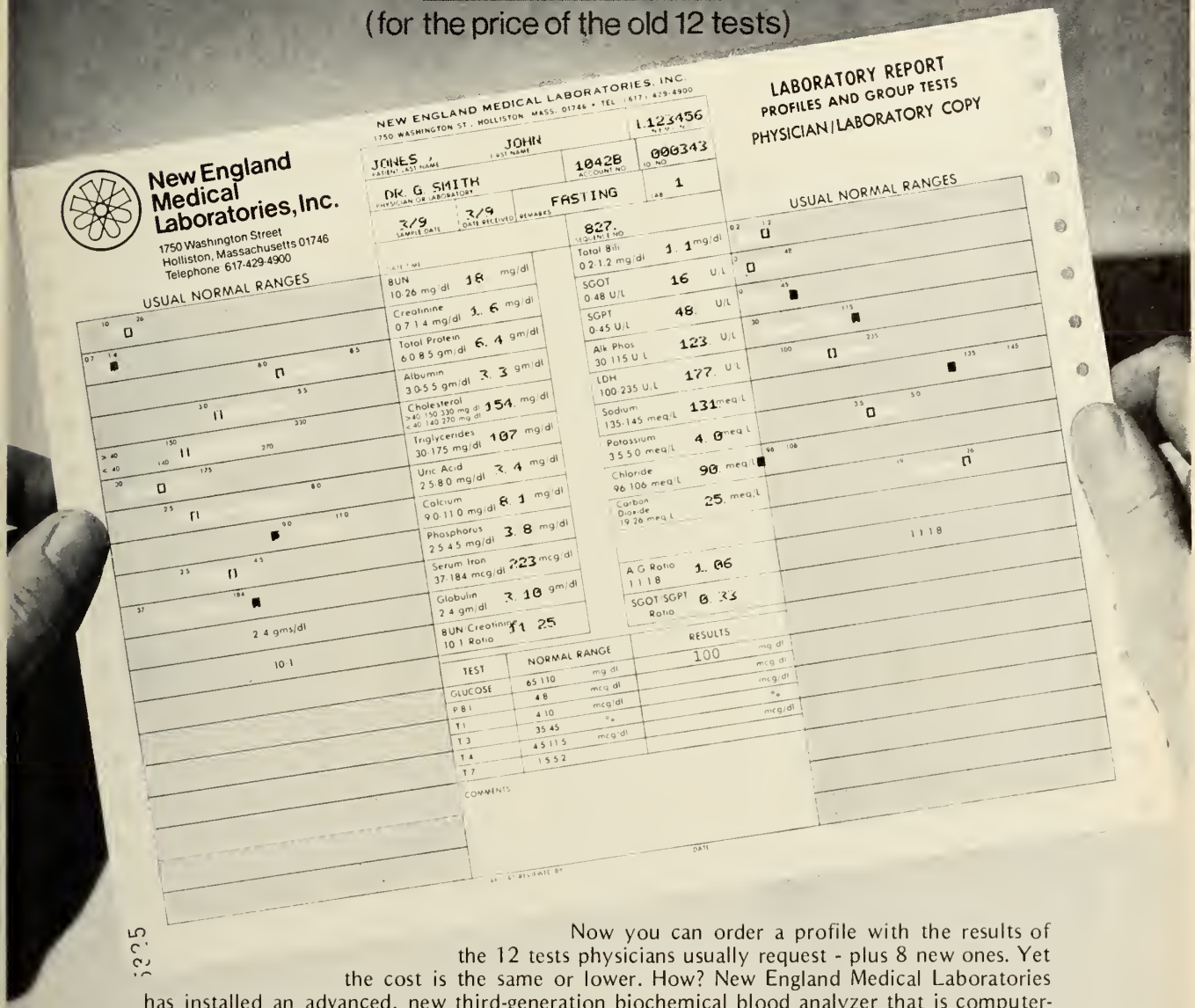

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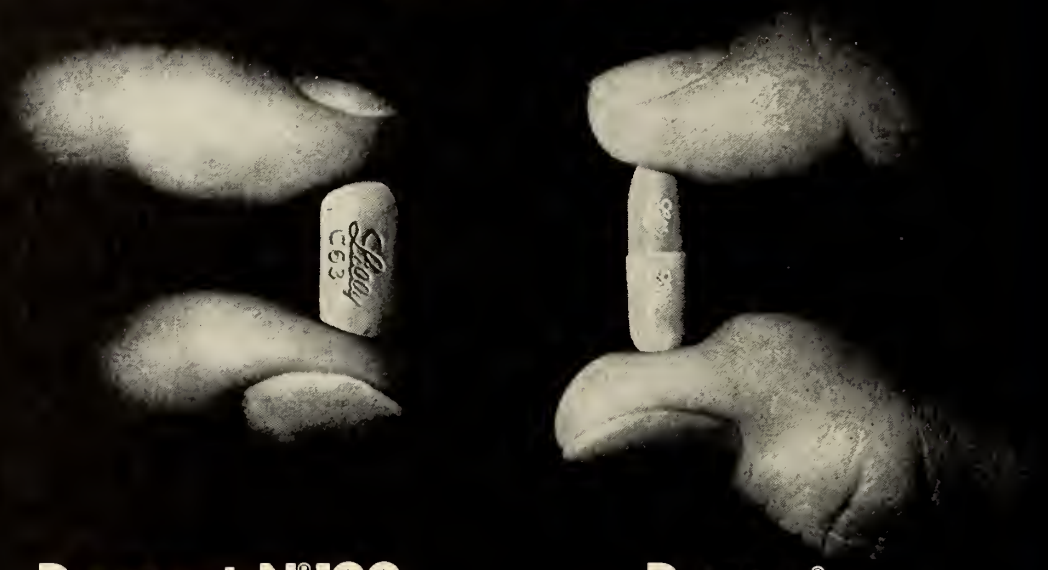

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An Approach To The Treatment Of Patients With Hypertension

Since The Mortality And Morbidity Associated With Hypertension Can Be Altered By Antihypertensive Therapy, Detection Is Important

By Joseph A. Chazan, M.D., F.A.C.P.

The purpose of this paper is to review briefly the evaluation and treatment of patients with hypertension. Since available treatment can decrease mortality and reduce morbidity, it is imperative that we take a fresh look at our approach to patients with hypertension.

DEFINITION

In a large population blood pressure levels are distributed in a bell-shaped normal distribution curve. Thus hypertension can be defined arbitrarily as those values which are beyond two standard deviations of the mean. These arbitrary criteria do not easily identify borderline values, especially when considering the multiple factors which can affect blood pressure, such as age, sex, and weight. Taking these general factors into consideration it is safe to say that in adults blood pressures of 130/80mm Hg or below are clearly normal and that the systolic pressure tends to rise with age and may be as high as 160mm Hg in the elderly (older than 65 years of age) without necessarily implying disease or requiring therapy. In general, diastolic pressure is affected much less by age, and recordings above 95-100mm Hg are generally considered to be elevated regardless of age, although investigation and therapy (which will be discussed subsequently) may be altered by the patient's age.

In infants and children normal values have not been well defined, in part because of technical difficulties in obtaining accurate data. Therefore, absolute levels of blood pressure which are abnormal cannot be accurately identified, but, since this field of study is currently receiving much attention normal values, it is hoped, will be better defined in the near future.

CLASSIFICATION OF HYPERTENSION

Patients with elevated blood pressure as defined above can be divided into three categories: those with labile hypertension, those with mild but sustained hypertension, and those with sustained moderate to severe hypertension.

Labile hypertension: Patients in this group are found at times to have a normal blood pressure, while at other times an elevated blood pressure is observed (usually when the patient is under increased anxiety and stress). The prognosis is usually excellent with the lability of blood pressure persisting indefinitely. In some cases, however, sus-

(Continued in Next Page)

JOSEPH A. CHAZAN, M.D., F.A.C.P., *Medical Director, Artificial Kidney Center of Rhode Island; Clinical Associate Professor, Brown University; Clinical Associate Professor, University of Vermont.*

Sponsored by the Rhode Island Heart Association.

TABLE I

Frequent Causes of Hypertension and Indicated Diagnostic Procedures

CAUSES	DIAGNOSTIC PROCEDURES
Intrinsic Renal Disease	Serum creatinine, urine culture and colony count, IVP, 24 hour urine protein
Renal Artery Disease	IVP, aortography, Renin (peripheral and renal vein)
Coarctation of the Aorta	Chest X-ray, aortography
Pheochromocytoma	Urinary catecholamines, VMA
Primary Aldosteronism	Serum electrolytes, renin, aldosterone secretion
Essential	Combination of above as indicated

tained elevation of blood pressure develops. It is important therefore to follow such patients periodically and evaluate and treat them if they develop sustained hypertension.

Mild sustained hypertension: Such patients have persistently elevated blood pressure, although the absolute values may be only slightly to mildly above "normal" (diastolics of 95-100mm Hg). It is difficult to generalize about these cases, but factors such as age, weight, and end-organ involvement (cerebral vascular, cardiac, and peripheral vascular disease) should be utilized in determining how far to evaluate and how vigorously to treat such patients. There is evidence that patients with sustained hypertension in this range have a decreased mortality and less morbidity if their blood pressure is lowered.

Moderate to severe hypertension: In virtually all patients with diastolic blood pressures greater than 110mm Hg complete investigation and appropriate treatment are indicated. Parenthetically, a sub-group with malignant hypertension (diastolic blood pressure 120mm Hg or greater with fundal changes consisting of hemorrhages, exudates, and papilledema) warrants separate discussion. Prior to treatment all of these patients were dead within six months. Now that antihypertensive treatment is effective the pronosis for these patients has greatly improved, although morbidity is still substantial.

ETIOLOGY AND EVALUATION

The common causes of hypertension and the diagnostic procedures to facilitate classification are outlined in Table I. Although identifiable and treatable causes of hypertension represent only about 10 per cent of the patients, it is important to identify such patients because of the possibility of complete cure. Patients with primary aldosteronism, pheochromocytoma, and coarctation of the aorta are the most uncommon and in the general population of hypertensives together account for less than 1 per cent of the total patients. Patients with renal disease, usually with renal functional impairment, account for several per cent. Since renal failure can be accelerated by the elevated blood pressure, it is doubly important to identify and treat such patients. Patients with renal artery stenosis, which is responsible for the elevated blood pressure, comprise the majority of patients with reversible causes of renal failure. It is important to recognize that renal artery stenosis occurs with increasing frequency as a function of age and progressive atherosclerosis and in many cases is not responsible for the elevated blood pressure. Thus the finding of renal artery stenosis must be evaluated with other findings before deciding upon the necessity for surgery.

(Continued on Page 279)

TABLE II

Diagnostic Evaluation of Patients with Hypertension

History	Family history, duration, trauma to flanks
Physical examination	Bruit over renal arteries, peripheral pulses, cardiac status, fundal vessels
Radiology	Chest X-ray, rapid sequence IVP, aortography
Laboratory	Serum creatinine, 24 hour urine for protein, urine culture and colony count, urinary catecholamines, VMA, peripheral and/or renal vein renin, plasma electrolytes, aldosterone secretion

TABLE III

Therapy

Mild Hypertension	Diuretics and/or Alphamethyldopa (Thiazides) (Aldomet)
Moderate Hypertension	Propanalol and Hydralazine (Inderal) (Apresoline) and/or Alphamethyldopa (Aldomet)
Severe Hypertension	Any of the above plus Guanethidine (Ismelin)

Measurement Of Blood Pressure In Children

Measurement Of Blood Pressure In Pediatric Patients May Provide Insights Into Adult Hypertension

By Pediatric Cardiology Council, Rhode Island Heart Association*

This paper is concerned with the measurement of blood pressure in children beyond the age of two years. The determination can be made by a physician but perhaps more frequently by nurses or paramedical personnel.

Almost 1 in 10 adults exhibits mild persistent hypertension making this a most common chronic disease in the older population. Hypertension necessitating treatment should be considered end stage disease without the possibility of cure. Unlike other diseases hypertension presents no symptoms. Patients feel well until a major complication occurs, such as malignant hypertension, stroke, congestive heart failure, dissecting aortic aneurysm, or renal damage.

Since the age of onset of hypertension is not known, blood pressure measurements should be a part of every physical examination. It is implied that essential hypertension in the adult population is no longer a curable disease and that prevention should now be our concern by earlier recognition in the pediatric age group.

Observations by clinicians and epidemiologists indicate that when essential hypertension is found in an adult, his siblings' blood pressure levels are more like his than that of the general population. Recent longitudinal studies of blood pressure in childhood suggest that variance of blood pressure within families is significantly less than among all children in this age group. The concept of the "child at risk" based on a family history where one or more members have developed hypertension is being actively investigated.

CURRENT STANDARDS OF SYSTEMIC BLOOD PRESSURE IN CHILDREN

Table I gives the 50th and 95th percentiles for systolic and diastolic pressures for children and teen-agers. A single determination should not be considered valid. Multiple determinations over months to years may be necessary and, if abnormal, should then lead to a thoughtful appraisal of the problem.

Severe or striking elevation of pressures warrants early diagnostic consideration.

TECHNIQUE

The patient should be supine, relaxed, and comfortable. The inner rubber bag (not the fabric) must be wide enough to cover two-thirds of the length of the upper arm or thigh.

(Continued on Next Page)

*Robert D. Corwin, M.D., Chairman; Donald T. Bortle, D.O.; Francis A. Donahue, Jr., MPA; Steve Feldman, M.D.; Vasant Gideon, M.D.; Alexander Jaworski, M.D.; Karl E. Karlson, M.D.; Jack H. Klie, M.D.; Peter L. Mathieu, Jr., M.D.; John R. Montgomery, M.D.; E. James Monti, Jr., M.D.; William H. Oh, M.D.; Jay M. Orson, M.D.; John O'Shea, M.D.; Patricia Rompf, M.D.; Alfred Toselli, M.D.

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TABLE I

Percentile Values for Blood Pressure by Age

Age	Systolic Pressure 50%	Systolic Pressure 95%	Diastolic Pressure 50%	Diastolic Pressure 95%
0 to 6 mo.	80	110	45	60
3 yr	95	112	64	50
5 yr	97	115	65	84
10 yr	110	130	70	92
15 yr	116	138	70	95

The rubber bag length should be at least 75 per cent, and some studies suggest 100 per cent, of the circumference of the extremity. The Council suggests the latter. The dimensions for standard cuffs appear in Table II. Using a rubber cuff which completely encircles the extremity obviates any risk of misapplication. A Velcro® fabric does away with cumbersome wrapping of the extremity and makes for a snug fit, so that the cuff pressure can be communicated evenly to the underlying artery.

The location of the artery is first determined by palpation. The stethoscope should be applied over the artery, beyond the cuff, to detect the Korotkoff sounds. The cuff must be rapidly inflated to a pressure of 30mm Hg above the expected systolic pressure. The first reduction of cuff pressure gives the approximate systolic and diastolic pressures. The cuff is deflated to zero. After a minute, the cuff can be re-inflated as before and a more accurate assessment of systolic and diastolic pressures made by slowing the deflation in the range of the expected valves. The lower the pulse, the slower the deflation.

The phases of the Korotkoff sounds are as follows:

Phase I—"a loud clear-cut snapping tone."

Phase II—"a succession of murmurs."

Phase III—"the disappearance of the murmurs and the appearance of a tone resembling to a degree the first phase but less well marked."

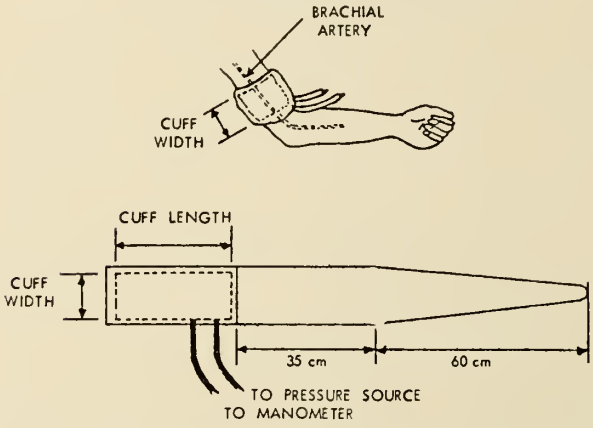
Phase IV—(the tone) "becomes less clear in quality or dull."

Phase V—"the disappearance of all sounds.'

TABLE II

Cuff Designation	Width cm	Length cm
Adult (arm)	11.9	21.9
Child (arm)	9.4	21.3*
Infant (arm)	8.9	11.9
Newborn (arm)	2.5	5
Adult (thigh)	17.5	35

(Courtesy of W. A. Baum Co. Inc., Copiague, Long Island, N.Y.)



*Child cuff is recommended for most pediatric patients because of size and design.

Phase I, IV, and V are recorded. Since there is frequently a difference between the point of muffling and cessation of sound, both pressures should be recorded according to current recommendations. If muffling and silence occurred together, the pressure might read 95/60/60. The site of measurement and body position should also be recorded.

Under the above condition the auscultatory systolic pressure in the arm is about 5mm Hg below direct arterial pressure. With muffling of the sounds as the diastolic criterion, the auscultatory diastolic pressure is about 8mm Hg above true pressure.

The measurement of blood pressures in the pediatric age group may provide some insights into that end-stage adult disease called essential hypertension. "An ounce of prevention . . . ."

References and reprints available on request to:
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Maximizing Rehabilitation Following Cerebral Vascular Accident: The Concept Of A Unified Comprehensive Stroke Team

Maximum Effectiveness Can Best Be Achieved Through The Medium Of A Unified Comprehensive Stroke Team

By David A. Chatel and Dennis Dunning, M.S.

A major health problem today is the rising frequency of chronic diseases and disability that has accompanied increased longevity. Individuals who have suffered a stroke represent the second largest portion of the disabled population. Functional recovery following stroke is possible in many cases. However, a model for optimal stroke rehabilitation which has been implemented successfully in four Rhode Island hospitals remains unincorporated in the majority of hospitals in our state. Since physicians represent the most influential of the groups which constitute "the hospital," this gap in patient care may reflect a reluctance on the part of the medical community to accept changes which are perceived as a threat to traditional treatment roles. This reticence might be ameliorated by expanded education and exposure to the actualities of Stroke Unit objectives and operational procedures.

OBJECTIVE

The objective which represents the philosophical basis for Stroke Unit care is the coordinated delivery of basic restorative services to patients with completed stroke. This is accomplished by organizing related resources available within the hospital and thereby integrating the treatment of physiological and psychosocial components of disability in the rehabilitation plan. Stroke Unit care has proven effective in achieving this objective in four Rhode Island hospitals including Rhode Island Hospital, Westerly Hospital, Our Lady of Fatima Unit of St. Joseph's Hospital, and the Medical Center General Hospital. The fundamental position upon which the implementation of the unified Stroke Team approach rests is that "rehabilitation is an essential and effective component of overall management of disability and all its consequences." If this basic tenet is denied then "therapeutic nihilism in stroke is sanctioned" and the neglectful treatment of stroke patients may continue.[1]

The Rhode Island Heart Association Stroke Council seeks to further expand the model for coordinated stroke care to as many hospitals in the state as possible. This effort involves the eradication of some of the barriers to change. One possible deterrent may be the anxiety felt by some physicians about therapeutic treatment by members of supporting disciplines. The experience in those hospitals where physicians have been exposed to the reality of a coordinated team has negated this concern. Furthermore, administrative objections to restructuring stroke care based on the supposition that the change will entail a significant increase

(Continued on Next Page)

DAVID A. CHATEL, *Program Coordinator, Rhode Island Heart Association.*
DENNIS DUNNING, M.S., *Speech Pathologist, Rhode Island Hospital; and Chairman, Rhode Island Heart Association Stroke Council.*

Sponsored by the Rhode Island Heart Association.

in costs are largely inaccurate and exaggerated.

A further consideration raised as an objection to the Stroke Team model is the possible problem of delineating roles and functions among team members. An elaboration of the operational procedures and team member roles might clarify the purpose of multiprofessional collaboration. The Stroke Team concept stresses intragroup communication in the planning and implementation of individualized rehabilitative treatment. In order to achieve a high level of coordinated therapy a weekly staff conference is held which is chaired by the Stroke Coordinator (physiatrist or other M.D.) and attended by all team members.

STROKE UNIT ORGANIZATION

The Stroke Coordinator is the central figure of the Stroke Team in gaining support from attending physicians and encouraging referral to the Unit. It is essential for implementation of the Stroke Team concept that this physician be dedicated to and interested in stroke rehabilitation. Sophistication in the rehabilitation and neurology of cerebral vascular disease is desirable, but sufficient background and knowledge can be readily acquired through visitations to other Stroke Units and continuing education. The most important role of the physician-coordinator is that of drawing together all of the paramedical members of the team in a setting conducive to open dialogue and eclectic planning for individualized treatment. This is done through individual meetings and consultations and in formal weekly group meetings chaired by the coordinator. Also the Stroke Coordinator works closely with the attending physician to evaluate the patient's neurological and general medical status. The coordinator offers suggestions and advice about timing of rehabilitation procedures, details of the prescription, and possible psychosocial problems. The primary physician is the ultimate decision-maker for patient treatment. The Stroke Team's main function is to free the primary physician from the details of stroke management and to provide feedback from the team conferences. In this way restorative training can be advanced as quickly as possible.

In order more fully to explicate the Stroke Team concept a brief description of members and roles may be helpful. The actual structure in any hospital may vary depending upon hospital resources and facilities, but this outline is presented as one "ideal" possibility.[4]

FUNCTIONS OF TEAM MEMBERS

The rehabilitation nurse is a primary figure in the Stroke Team model. Nursing involvement and advocacy of stroke rehabilitation is nearly universally enthusiastic. Once the attending nurse has been apprised of a patient's admission, she informs the rest of the team and institutes early preventive procedures against secondary complications such as bed sores, joint muscle contractions, and excessive deconditioning. She manages the bed adjustment and sees to proper body alignment and positioning, inspects the skin, gives active and passive range of motion exercises, gives attention to bowel and bladder, particularly the weaning of the patient from the catheter through carefully graded steps. As the source of continued patient contact the nurse represents the crucial source of observed changes in overall patient condition and in evaluating rehabilitative successes.

Subsequent to admission to the Stroke Unit and as soon as there is medical stability, the patient is involved in an active restorative program. The stroke patient receives an elaborated evaluation of both disability and remedial prognosis. Evaluation will involve thorough neurological examination with exact determination of the sensory and motor deficits as well as residual functions, a complete medical assessment to recognize any medical complications which may impede rehabilitation, and lastly social and psychological evaluations. Based on these assessments the rehabilitation program for the stroke patient will include other appropriate paramedical professionals.

The physical therapist maintains a prescribed program of restorative exercises for the hemiplegic side of the body. In most cases muscle re-education is indicated during the early period after paralysis to reinforce or assist in facilitating the spontaneous recovery which may occur. As the primary witness to progressive functional recovery, the phy-

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Open Heart Surgery In Infancy

Primary Corrective Surgery In Symptomatic Congenital Heart Disease In Infants Is Desirable In Most Cases

By A. K. Singh, M.D.; R. B. Corwin, M.D.; G. N. Cooper, Jr., M.D.; L. Vargas, M.D., and K. E. Karlson, M.D.

Congenital heart disease is the most common cause of death in infancy. Approximately 6 to 8 infants per 1000 live births are born with congenital heart disease, and 60 per cent will die within the first year of life if left untreated. Autopsy studies revealed that 80 per cent of those who died had surgically correctable lesions even though the lesions may have been multiple and complicated. Therefore, it is not surprising for symptomatic children with complicated heart disease to have open heart surgery early in life. Large numbers of symptomatic infants are being operated upon each year with increasingly good results (Table I). Improved results are due to: 1. the ability to do a complete investigation during the first few hours of life, 2. improvements in open heart surgical techniques, and 3. better understanding of pathophysiological changes during the peri-operative period.

In assessing the advantages of early correction versus palliative operation followed by correction, one must look critically at the mortality of each approach before deciding which method is preferable. Some arguments in favor of early correction are not valid. Among these spurious arguments are the following: (a) that it is better psychologically for the parents and child and (b) that it is less costly.

In looking at the results of surgery the risk of open heart surgery has to be carefully weighed against the natural history of the disease and the risk of prolonged non-operative treatment.

We shall describe briefly recent concepts, techniques of operation, and results of open heart surgery in infancy.

PERI-OPERATIVE MANAGEMENT

Any child who requires open heart surgery should have a complete cardiac catheterization and angiocardiography before operation. Precise diagnosis can prevent serious error in indications for operative treatment of the infant. No infant should be considered too small or sick for early investigation, because delay in diagnosis or operation may prove fatal. Infants in severe congestive heart failure or hypoxemia may need aggressive treatment prior to investigation, such as monitoring of arterial and venous pressure, correction of abnormal acid-base balance, and occasionally mechanical ventilation. Once the diagnosis is made, these sick infants should be operated upon without delay.

Anaesthesia is usually induced by ketamine and maintained with nitrous oxide and oxygen supplemented by halothane 0.5 per cent. Pancuronium is used as a muscle re-

(Continued on Next Page)

Division of Cardiovascular Surgery and Pediatric Cardiology, Rhode Island Hospital.

This is one of a series of papers supported by the Continuing Education Program of the Rhode Island Health Science Education Council.

TABLE I
INDICATIONS FOR OPEN HEART SURGERY IN INFANCY

1. No palliation available but satisfactory correction possible in such lesions as:
   a. Atrial septal defect or common atrium
   b. Aortic stenosis
   c. Mitral stenosis or regurgitation
   d. Transposition of great arteries (TGA)
   e. Total anamolous pulmonary venous return
   f. Triatrial heart
   g. Aorta-pulmonary window
   h. Heart tumor
2. Morbidity and Mortality of primary correction is equal to or lower than palliation + secondary repair with lesions such as:
   a. Ventricular septal defect
   b. Tetralogy of Fallot
3. Unsatisfactory palliation, but correction a probability:
   a. Complete atrio-ventricular canal
   b. Truncus Arteriosus

laxant throughout the operation. The ventilation is adjusted to maintain arterial $PaCO_2$ between 30 and 40mm Hg.

When a child is anaesthetized, the radial or brachial artery is cannulated for monitoring the arterial pressure and blood gases. The electrocardiogram, temperature, central venous pressure, left atrial pressure, and urinary output are monitored during the operation. In infants we use the Bentley Temp-trol® oxygenator with the Olson roller pump, heat exchanger, and filter for cardiopulmonary bypass. The oxygenator is primed with heparinized blood if the child is less than six months of age; otherwise citrate-phosphate-dextrose (CPD) blood is used. Plasma-Lyte is added to the primer to reduce the hematocrit to 28 per cent. The pH of the blood is adjusted with sodium bicarbonate if metabolic acidosis is present. Conventional cardiopulmonary bypass, as well as circulatory arrest at 19°C, have been used in our institution for surgery. When conventional bypass is used, the patient is perfused at a flow rate of 2.6 L/min/M.2. The operation is usually performed under moderate hypothermia of 28°C with intermittent aortic cross-clamping.

When deep hypothermia with circulatory arrest is used, it is accomplished with combined surface and bypass cooling.

Anaesthesia is induced with halothane (0.5-1 per cent), and paralysis is obtained with succinylcholine or curare. The patient is placed on a hypothermia blanket and is surrounded with plastic bags containing crushed ice. The nasopharyngeal temperature, electrocardiogram, arterial pressure, and blood gases are monitored carefully. By adding CO_2 to the anaesthetic mixture the arterial PCO_2 is kept between 50 and 60mm Hg to avoid cerebral vasoconstriction. Thoracotomy is performed at 26°C. After heparinization the ascending aorta is cannulated and a single venous cannula is inserted into the right atrial appendage. The child is then cooled to a nasopharyngeal temperature of 19°C on bypass. At 19°C the arterial line is clamped, the aorta cross-clamped, the patient exsanguinated, the venous cannula removed, and the cavae occluded. Then intracardiac repair is carried out in a bloodless field. When the repair is completed, the venous cannula is reinserted into the right atrium, air is evacuated from the left and right sides of the heart, and the patient is rewarmed to 37°C on bypass. Epicardial pacemaker wires and a left atrial pressure line (LAP) are inserted in every case. Circulatory arrest up to 70 minutes at 19°C is considered safe. All patients are carefully monitored and ventilated postoperatively.

This in brief is our current policy in the management of the most common congenital heart defects.

TRANSPOSITION OF GREAT ARTERIES (TGA)

Eighty per cent of patients with transposition die during the first year of life. The natural history of TGA has been modified by the balloon atrial septostomy. However, despite early symptomatic improvement, morbidity and mortality remain high after the first year of life. So early repair is desiderable.[1–5]

Balloon septostomy is performed during the initial cardiac catheterization procedure in all infants irrespective of associated lesions. Patients with simple TGA are reinvestigated at 4 to 6 months of age, and redirection of the intra-atrial venous return (Mustard operation) is performed between 8 and 12 months of age. If the baby's condition fails to improve or deteriorates after adequate balloon septostomy and there is no left ventricular outflow tract obstruction (LVOTO), a Mustard operation should be performed urgently, irrespective of the age of the infant. TGA with associated patent ductus arteriosus (PDA) may cause heart failure or pulmonary

Fig. 1
Retrograde aortogram showing the origin of pulmonary artery behind the aorta.
Tr.V =Truncal Valve
MPA=Main pulmonary artery
Ao =Aorta

vascular obstructive disease (PVOD) by the age of one year. The PDA should be ligated before the first birthday provided there is adequate intra-atrial mixing. The risk of the Mustard operation in the first year of life is less than 10 per cent.

Patients with TGA with ventricular septal defect (VSD) often develop heart failure and pulmonary vascular obstructive disease. They should be operated upon early in life. Our current policy is to correct the defects between the ages of 6 and 12 months. Pulmonary artery banding (PAB) is indicated for TGA and a large septal defect in small infants under 3 months of age. Later on either a Mustard or Rastelli operation can be performed.

In TGA with VSD and LVOTO a shunt should be done if necessary. A Rastelli type of operation is performed at the age of 4 to 6 years. Atrial arrhythmias, systemic and pulmonary venous obstruction, and tricuspid incompetence are well recognized late complications of the Mustard operation, but with the use of Brom's trouser-shaped pericardial patch these complications are less and less frequently seen.

COMPLETE ATRIO-VENTRICULAR CANAL

This condition is characterized by a centrally situated septal defect, resulting in direct inter-atrial and interventricular communications associated with anomalous development of the atrioventricular (A-V) valve resulting in a common A-V valve. The majority of infants with a complete A-V canal die in the first year of life due to intractable heart failure. The management of such infants remains controversial. Until recently pulmonary artery banding was the only surgical treatment for such infants in intractable heart failure. However, results have been unsatisfactory. Recently several isolated cases of successful anatomic correction in infancy have been reported.[6] One

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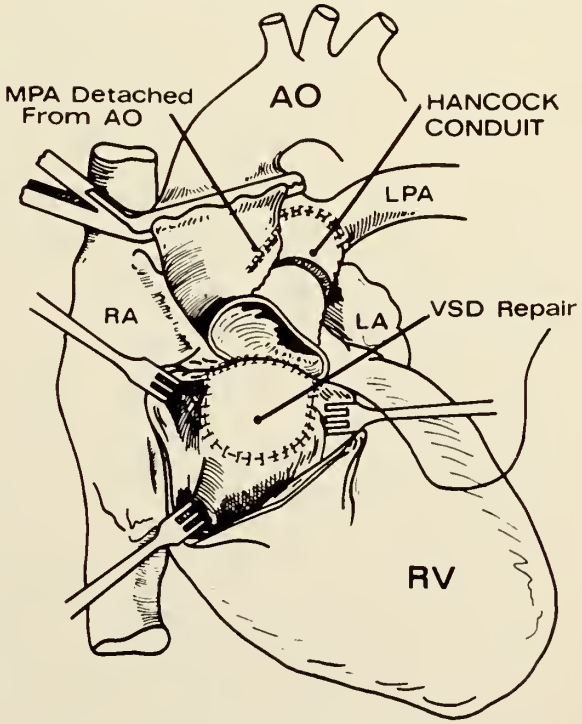

Fig. 2
Surgical repair of truncus arteriosus using a valve conduit.
RA =Right atrium
RV =Right ventricle
LA =Left atrium
VSD=Ventricular septal defect
Ao =Aorta
MPA=Main pulmonary artery

Editorial

SYMBIOSIS

May was National High Blood Pressure Month. We are belatedly taking cognizance of it by devoting this whole issue of the **Journal** to cardiovascular disease. Other commitments prevented our utilizing the May number for that purpose.

Three papers have been provided through the efforts of the Rhode Island Heart Association, while the fourth was sponsored by the Rhode Island Health Science Education Council (RIHSEC). We believe that our symbiotic relationship with the latter has been felicitous and regret that this paper is the last of the present series. With the winding down of Tristate Regional Medical Program (RMP) federal funding, the future of RIHSEC is very much in doubt at this writing. The RIHSEC staff is excellent, and in our estimation the organization has played a very important role in coordinating education activities in the state. The Rhode Island Medical Society was active both in the conception and founding of RIHSEC and has maintained a genuine interest in its well-being. We hope that means will be found to continue its operations and that we can look forward to receiving papers in the future as part of its and our postgraduate continuing education programs.

As for hypertension, it appears that screening drives continue to detect many inadequately controlled hypertension patients and new cases. We trust that the program of the American Heart Association and similar efforts will alert and educate both the public and the medical profession as to the benefits of early detection and conscientious long-term therapy.

PNEUMOCYSTIS PNEUMONIA

This acute disease, also called interstitial plasma cell pneumonia, is a pulmonary infection of debilitated adults and infants, including those receiving cytotoxic drugs, immunosuppressive treatment, cortisone, and other therapies in which cellular detritus containing plasma cells appears in the lung tissue. Pneumocystis carinii, the causative agent, belong to a genus of organisms of uncertain status, but considered to be a protozoan, probably sporozoa.

The pulmonary infection is now recognized as the leading cause of death from infection in patients with a hematologic malignant condition, but who are in remission. Since 1969 more than 80 patients with pneumocystis pneumonia have been treated at the National Cancer Institute.

Effective treatment requires suspicion of the infection in susceptible patients and rapid identification of the organism. Specific identification of nonbacterial causes of pneumonia is often difficult, since the offending agent is usually not recognizable by examination of the sputum or bronchial washings. When the pneumonia appears as a diffuse process, profound hypoxia is not uncommon and survival requires respiratory support, early diagnosis, and prompt treatment.

The commonest symptoms are fever, nonproductive cough, malaise, and breathlessness. Auscultation reveals no characteristic signs. Profound hypoxia respiratory alkalosis, anemic leukopenia, and thrombocytopenia are common findings. The chest film shows diffuse pulmonary infiltrate. Early in the disease the infiltrate, which is centrally located, is minimal. Pulmonary nodularity, pneumothorax, and pleural effusion are absent.

When the disease is suspected, prompt limited anterior thoracotomy and lung biopsy is the recommended diagnostic procedure. Needle biopsy, besides providing an inadequate specimen, presents a considerable risk of hemorrhage, and pneumothorax has been

(Continued on Page 278)

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PNEUMOCYSTIS PNEUMONIA

(Continued from Page 276)

reported. Respiratory care unit management is essential following the operation, but the risk of the procedure appears to be acceptable and provides a definitive diagnosis. Both frozen section and permanent staining techniques are utilized.

Pneumocystis pneumonia is curable. Treatment with pentamidine isethionate, an antitrypanosomal agent, is definitive. If the patient is very ill and the disease is suspected, treatment may be started on suspicion before a definite diagnosis is available without any special risk to the patient.

According to Michaelis, et al.[1] early diagnosis and prompt treatment will reduce the mortality, which in the past has been high. Constant awareness of the possibility of pneumocystis pneumonia in susceptible individuals is important. Willingness in the part of the surgical consultant to obtain sufficient lung tissue for rapid determination of the diagnosis is an essential ingredient. Open lung biopsy is usually the indicated procedure, and attention to appropriate operative technique and pre- and postoperative care will minimize the risks of thoracotomy in these critically ill patients.

A new serious infectious disease, no longer rare or exotic, must be added to the repertory of the practicing physician. Since it is curable when diagnosis is timely, it is important that it be kept in mind when susceptible individuals present with obscure severe pulmonary disease.

REFERENCE

[1]Michaelis LL, Leight GS Jr, Powell RD Jr, et al.: Pneumocystis pneumonia: the importance of early open lung biopsy. Ann Surg 183:301-6, Mar 76

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Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

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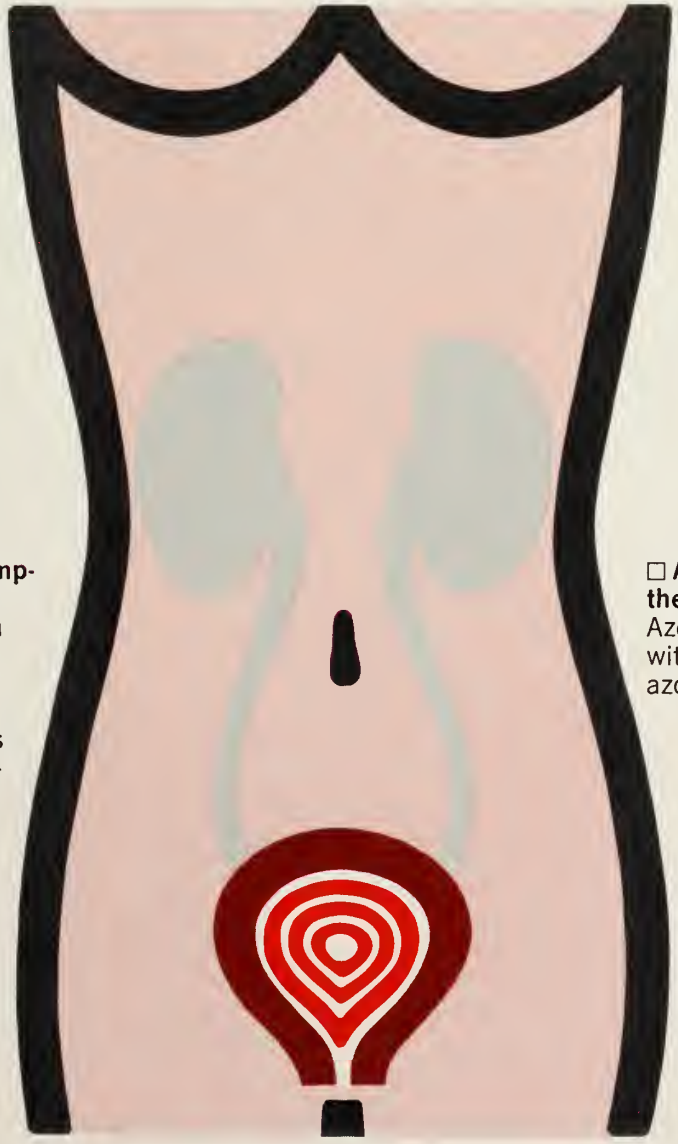

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* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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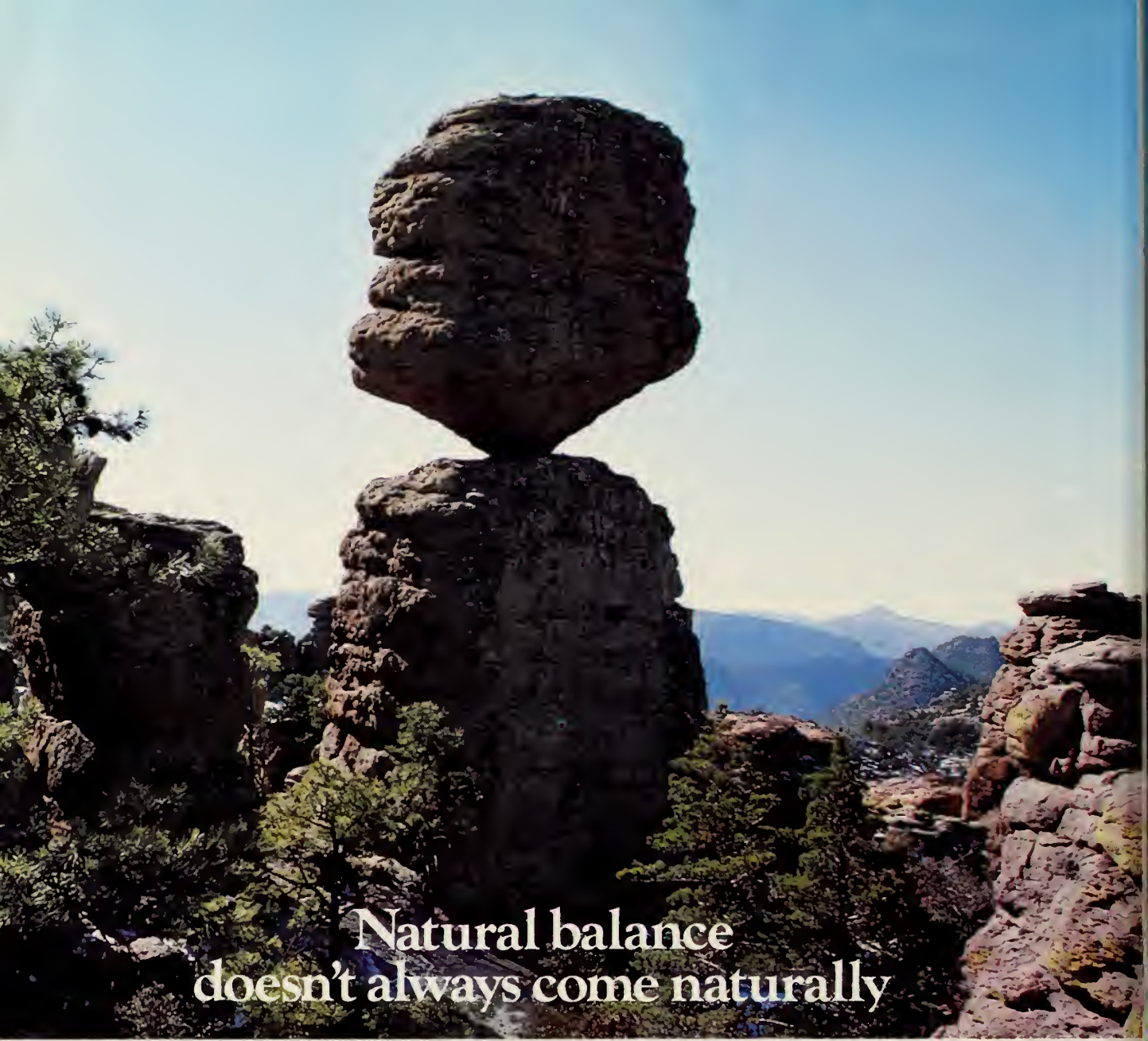

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□ Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
□ Can relieve nausea and vomiting often associated with vertigo.*
□ Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
□ Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
□ Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences – National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

AN APPROACH TO THE TREATMENT OF PATIENTS WITH HYPERTENSION

(Continued from Page 268)

Over 90 per cent of patients with elevated blood pressure have essential hypertension. Evaluation must be individualized. Older patients with mild to moderate hypertension of many years duration need little evaluation, while similar patients with a recent onset of elevated blood pressure may need more extensive investigation. In general, patients with mild to moderate hypertension should have evaluation of renal function, serum electrolytes, and in most cases an intravenous pyelogram. Patients with severe hypertension, together with those who have some unusual manifestations, such as recent onset, abdominal bruit, abnormal intravenous pyelogram, and elevated peripheral renin, should be considered as candidates for aortography (Table II).

THERAPY

The approach to therapy must be individualized, although some generalizations are in order (Table III). In mild hypertension with diastolic blood pressures between 90-110mm Hg and without end-organ involvement salt restriction in conjunction with one of the antihypertensives, such as diuretics, alphamethyldopa, or both, is appropriate. In general, I prefer alphamethyldopa over diuretics because it is more effective alone and is associated with fewer biochemical side effects. An alternative approach is the use of hydralazine and propranolol. This has recently been described as being especially effective in patients with elevated renin, although the elevated renin is not secondary to renal artery stenosis. Preliminary reports are encouraging, and this combination may prove to be effective in many patients needing therapy. In patients with more severe hypertension the use of several drugs is generally required. It is often necessary to combine diuretics with alphamethyldopa and guanethidine. The dosage of each drug must be adjusted separately.

SUMMARY

It is now recognized that the mortality and morbidity associated with hypertension can be altered by antihypertensive therapy. Therefore, it is important to identify patients with elevated blood pressure and initiate therapy after appropriate investigation.

MAXIMIZING REHABILITATION FOLLOWING CEREBRAL VASCULAR ACCIDENT

(Continued from Page 272)

sical therapist must be consulted in rehabilitation plans involving ambulation, range of motion, mobility training, mobilization activities, and related functions.

Since impaired communication is a frequent complication of stroke, all personnel concerned with rehabilitation must recognize the significance of language handicaps. When indicated, a speech pathologist conducts early diagnosis of speech problems; provides consultation to hospital staff, Stroke Team members, and the family. The family is taught how to communicate best with the patient, particularly during the post-operative period.

At the same time as the progressive rehabilitation program is initiated by the other team members, the social worker appraises patient and family resources, identifies potential psychosocial difficulties, orients family members to alternatives in social adjustments, and actively participates in discharge planning including referral to community resources. It is important for the social worker to attend staff conferences to insure integration of psychosocial considerations in the comprehensive rehabilitation plan.

One other important component of the Stroke Team is occupational therapy. In the attempt to help the stroke patient achieve independence in the essential activities of daily living, the occupational therapist plays a crucial role. Obstacles to performance are analyzed when the patient presents overlapping problems such as hemianopia, communication disorders, and spasticity. Occupational therapists are uniquely trained in the evaluation and management of the complex dysfunctions caused by severe cerebral damage. In the context of the Stroke Team, the occupational therapist is responsible for 1) evaluating patients to determine range of motion and sensory deficits, and their ability to perform motor tasks; 2) developing a positive program in functional activities and self care methods; and 3) supplementing limited motor recovery by teaching one-handed techniques, training in the use

(Continued on Next Page)

of self-care devices, adjustive equipment, or both, and review of environment situation for potential modifications. These functions can be accomplished most effectively through cross-channel communication with the other medical professionals on the Stroke Team.

COOPERATION AND COMMUNICATION

In order for the Stroke Unit to achieve its objective the cooperation and communication between all team members is essential. Other professionals than the ones mentioned may be included as individual needs develop. However, the six team members considered here constitute a sufficient model for organizing professional resources toward the common goal of developing an integrated rehabilitation plan individualized to patient needs. Smaller hospitals with fewer personnel resources will be required to modify this outline for pragmatic reasons. The primary obstacle to implementing such a program appears to be administrative resistance and lack of physician support. However, these viewpoints appear to be changing. As demonstrated in several hospitals within the state, the Stroke Unit concept can be promoted through the necessary channels by combining the support and initiative of an interested physician and a group of dedicated nurses.

Results of the effectiveness of stroke rehabilitation in the Stroke Unit at Rhode Island Hospital have been presented in a recent papers by McCann and Culbertson[3] and Dunning.[2] Considering the demonstrated alternatives for improving in-hospital stroke care, it is truly regrettable that some hospitals may be offering less than optimal rehabilitation conditions to stroke patients.

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OPEN HEART SURGERY IN INFANCY

(Continued from Page 275)

should probably, therefore, repair the complete A-V canal in the presence of congestive heart failure in infancy.

TETRALOGY OF FALLOT

Children with blue spells or hypoxemia should have their defects corrected early or have an urgent shunt operation.[3,5] Because the risk of a shunt procedure is high in infants under 6 months of age,[3] early correction is preferred in many centers with good results reported.[3,5] At the present time the only contraindications to early correction in infancy are: 1. pulmonary artery branch stenosis, 2. atresia of the main pulmonary artery, and 3. anomalous origin of the left coronary artery with the artery crossing the right ventricular outflow tract.

Critical evaluation of the long-term results for primary correction will be necessary for comparison with those for two-stage correction.

VENTRICULAR SEPTAL DEFECT (VSD)

Most infants with VSD can be kept alive on medical management, but the mortality

(Continued on Page 282)

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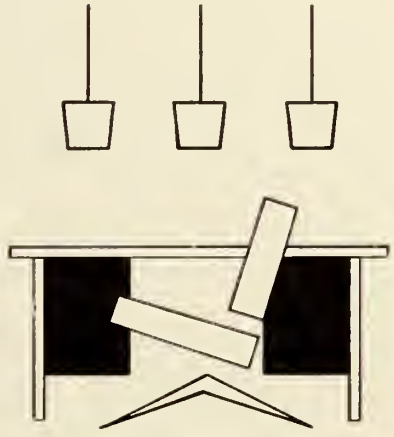

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for VSD with congestive heart failure treated medically is high, about 27 per cent.[7] In the past, pulmonary artery banding (PAB) was the treatment of choice for large VSD with heart failure in infancy. Although the mortality was low, it is a palliative operation and requires reoperation. At the present time primary closure of VSD is preferred, and the risk of closure of the VSD is the same as that for PAB. A large VSD with large pulmonary blood flow, should be repaired before the age of 2 years.[2] Recent data[2] suggest that closure of a large VSD in infants under 2 years of age is not associated with late development of pulmonary vascular obstructive disease, which frequently occurs if operation is delayed.

TOTAL ANOMALOUS PULMONARY VENOUS DRAINAGE

This condition is a common cause of hypoxemia and heart failure in the first few weeks of life. Eighty per cent of infants with this anomaly die within the first year of life if it is left uncorrected. Some infants are critically ill and require intensive pre-operative care, complete investigation, and surgical correction on an emergency basis. At the time of surgery the vertical vein is ligated and the common trunk anastomosed to the left atrium. The overall risk of operation in infants under 1 year of age is 30 to 50 per cent, substantial, but half the risk of that for non-operative management.[1-3]

TRUNCUS ARTERIOSUS

This relatively rare congenital anomaly is characterized by a single large arterial trunk originating from the base of the heart, which gives rise to the pulmonary and coronary arteries and is usually accompanied by a VSD. Until recently pulmonary artery banding was the operation of choice in infants with congestive heart failure, but the mortality of this operation has been high.[8] Due to the poor results of PAB, together with the knowledge that pulmonary vascular disease can develop rapidly, we have adopted the policy of early total repair of symptomatic infants with this lesion using a valved conduit (Hancock) (Figures I and II). Thus far the results of early correction seem to be encouraging.

SUMMARY

About half of the infants born with congenital heart anomalies die during the first year of life if the disorder remains untreated.

Primary corrective surgery should be offered to symptomatic infants with congenital heart disease if possible and on an elective basis to patients with transposition of the great arteries. Early diagnosis and operation can improve the poor prognosis.

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Books Received For Review

The Editor acknowledges the receipt of the following books and thanks the publishers for sending them. We shall have as many as possible reviewed. The volumes are greatly appreciated and will be added to the Library's collection where they will be available to readers.

Ciba Foundation Symposium 36 (n.s.) THE FUTURE AS AN ACADEMIC DISCIPLINE. Amsterdam, Elsevier/Excerpta Medica, 1975.

THE HEALER'S ART. A new approach to the doctor-patient relationship by Eric J. Cassell, M.D. Philadelphia and New York, J. B. Lippincott Company, 1976. $8.95.

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STEP RIGHT UP, by Brooks McNamara. Garden City, New York, Doubleday & Co., Inc., 1976. $12.95.

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Rhode Island Medical Journal

July, 1976

Vol. 59, No. 7

BICENTENNIAL ISSUE

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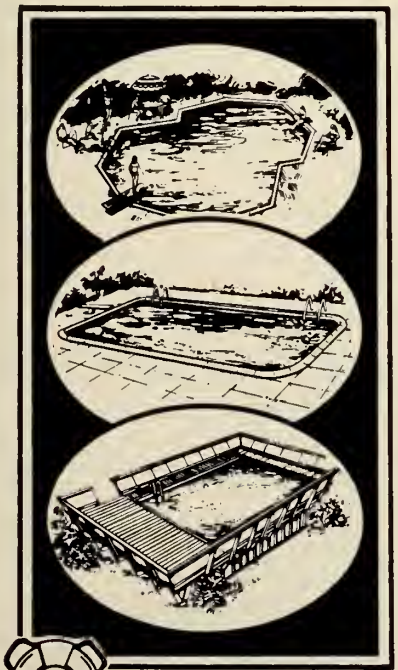

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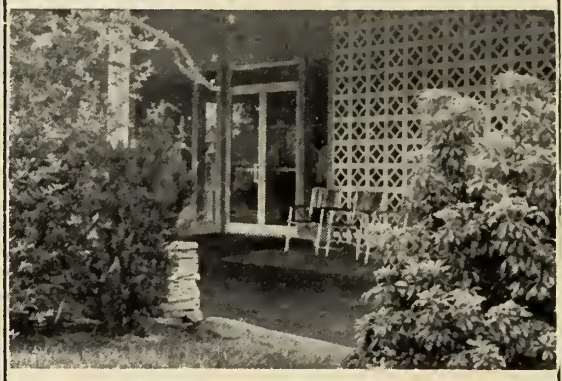

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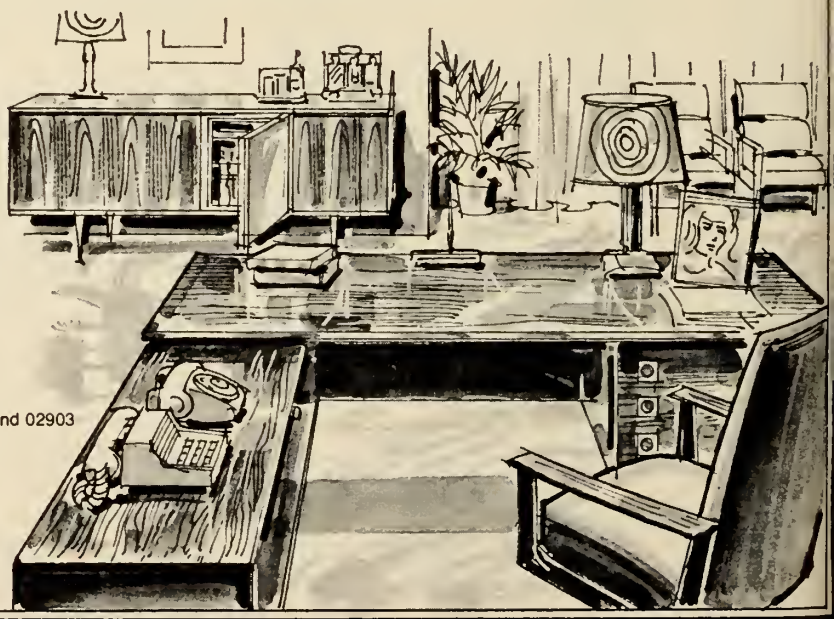

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the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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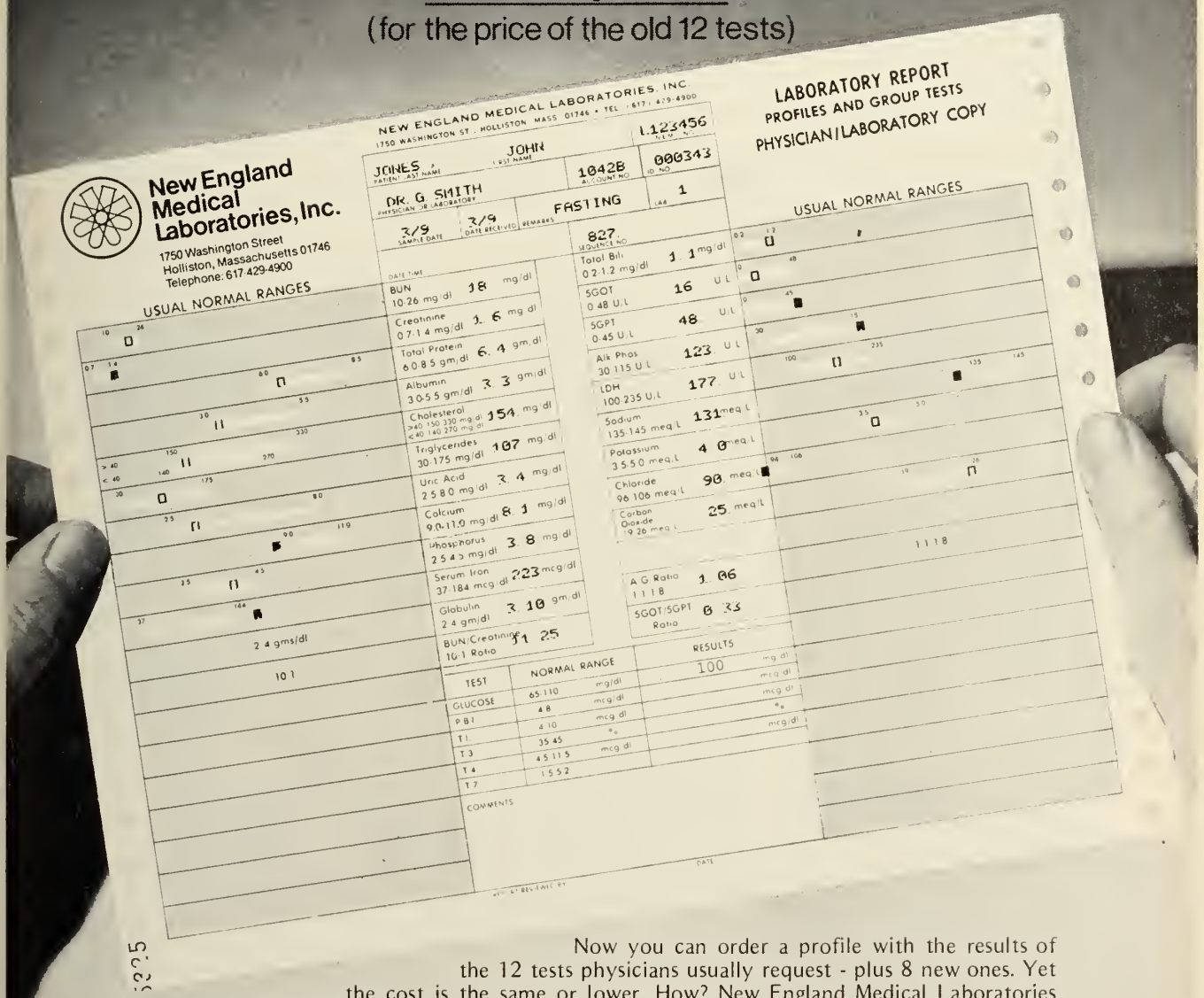

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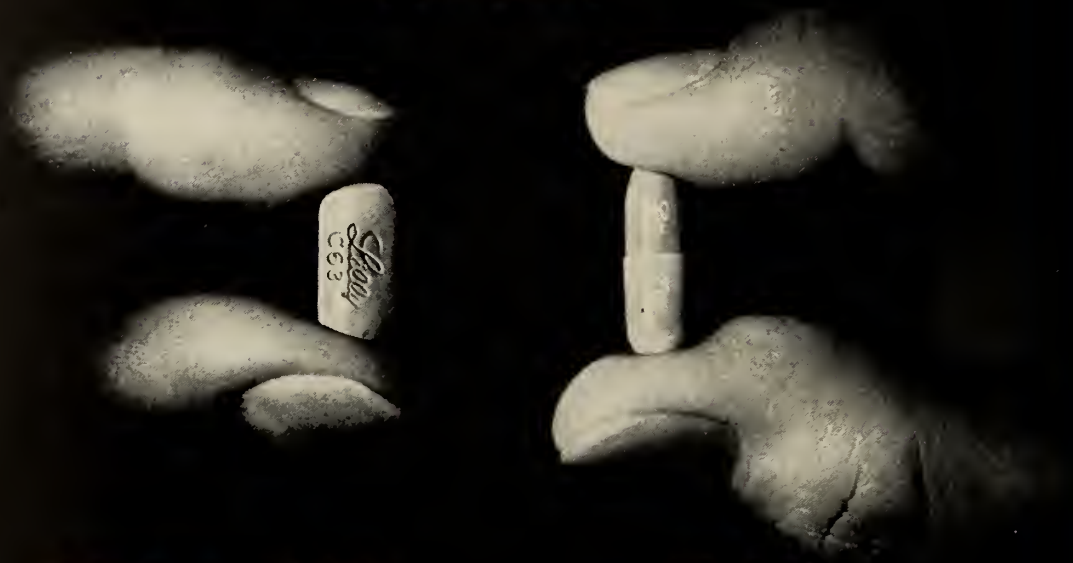

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Rhode Island Medicine In The Revolution

By Charles E. Millard, M.D., A.B.F.P.

The American Revolution brought to the soil of Rhode Island the armies of Great Britain, France, and Germany and our own Continental Army, and to our coasts and seaports the navies of Great Britian and France and the newly created Continental Navy. Since medicine in Rhode Island during this period was of necessity affected by the presence of these various armies, no review would be complete which did not include their medical activities.

THE STATE OF THE ART OF MEDICINE

Medicine at this time was extremely immature. Ashburn emphasized this when he pointed out that there was no clinical laboratory, no use of the microscope, no urinalysis, or blood examination. The stethescope and clinical thermometer were not in use. The only precision instrument was the watch used to check the pulse. Investigation consisted of the use of the five senses, and treatment was directed to symptomatic diseases. The cause and nature of no single disease was known. Most of the diseases were attributed to "miasmata" or to meteorological conditions.[1]

Furthermore, the competence of the medical officers who served these armies was not held in high esteem. The training of most of the medical officers was minimal, and many of the physicians and surgeons were incompetent.[2]

Of the 1,200 practitioners who served in the Continental Army as physicians, only 100 were doctors of medicine who had attended a university. Few had professional training or military experience; most came from isolated towns and lacked medical education. Frequently, the regimental colonel selected the surgeon, who appointed his mate. This was often done on the basis of friendship rather than medical competence.[3] Massachusetts was the exception to this practice, requiring examinations which were sufficiently rigorous to maintain high standards.[2]

It was a sad reflection on the condition of the German military surgeon at the end of the eighteenth century, that he had still to be a barber. Everywhere else — in France, in America, and in England — the surgeon had long ago discarded the basin and the razor. In Germany, however, the shaving basin was still the professional badge of the surgeon.[4]

Doctor Theodor Billroth attested to the lack of esteem for the surgeon even within the army of his own country: "The position of the military surgeon was, in those days, very ignoble, and such as we do not hear of now; for even in the time of Frederick the Great, the army surgeon was flogged if he permitted one of the long grenadiers to die."[4]

The paucity of medical records of the Con-

(Continued on next page)

CHARLES E. MILLARD, M.D., A.B.F.P., *Founder and President, Medical Associates of Bristol County; Attending Physician, Rhode Island Hospital.*

Publication supported in part by the Fiske Fund.

tinental Army in Rhode Island necessitates a review of the records in other theaters of operations. It is fair to assume that the same procedures were in use here, because a search of the records reveals that the hospitalized patients in Rhode Island had the same diseases, and the list of drugs requested by the apothecary was the same as that in other areas. Therefore, a brief review of surgical procedures and treatment of diseases will follow.

SURGERY

The medical man of the Revolution could pull teeth, set a fracture of a horse or man, excise a tumor, evacuate an abscess, probe and remove a ball, and remove a baby by Caesarian after the mother had expired. Medical men, unless in charge of line troops, held no commission, and many a medical man was a line officer.

Doctor Charles Gilman discovered the disinfecting properties of alcohol quite by accident at the battle of Harlem Heights, when he received a crease wound on the back of his hand. It was painful and would not heal and exuded laudable pus. In camp at Newburgh, after having too much rum, he spilled some on his hand. He covered it and in two days noticed no odor, and when he removed the cover the wound was healing. Thereafter all wounds were soaked in rum cloths before covering.[5]

Later, Major Charles Gilman, M.D., in speaking of amputations at Valley Forge, stated: "A good dose of tincture of opium followed by ample rum together with a very sharp knife and sharp saw and ears covered with lamb's wool, and then the head bound over (the ears) results in little discomfort to the man." He also suggested pressure bandages to the stump and sometimes searing with a hot iron.

Recommended for gunshot wounds was the removal of the ball if possible, "but don't probe too long." A tight compression bandage was then applied and the same for bayonet wounds. Sutures were not employed, but they bound the edges together.

Snakebite was treated by "cross cut and let it run, be sure the cuts pass through the bite, then cup."

Fevers were treated by bleeding, which was the standard practice. One employed either a sharpened quill or the surgeon's knife.

Hemorrhoids were excised. Teeth were always removed by the surgeon, following which the patient would bite on a leaden ball. Heat from an open fire was used to treat the ague (fever accompanied by chills and shivering). We now know that a wood fire is rich in infra-red, particularly if its rays are reflected by an iron fire back. Salt was used to arrest bleeding and is still used following the castration of hogs.

Doctor James Craik, Washington's home physician, packed wounds to arrest bleeding. Others said, let it bleed; if it bleeds too much, scar it. Others recommended a compression, which sort of treatment continued well beyond the Civil War.

Doctor Gilman states that coaptation by binding seems to have been the standard practice, and nowhere can he find evidence of suturing during this entire period. Some historians assert that horsehair was used, but he believes this to be hearsay.[5]

The treatment of burns had been a problem of man since the invention of gunpower, and everything from mud to grease, to human urine had been used. "By the time of the Revolution, strongly steeped China tea applied as wet dressings, then wrapped with cloth, became the thing of choice."[5]

DISEASES

The chasm of knowledge that exists between the medical worlds of 1776 and today is probably best illustrated by a medical practice which was included in Van Swieten's commentaries on diseases of armies in 1776 under the following headings: "Coughs: Sore Throat: Pleurisy: Peripneumony: Rheumatism: Intermitting Fevers: Quartan Fevers: Jaundice: Dropsy: Vomiting: Cholera Morbus: Diarrhea: Dysentery: Inflammation of the Intestines: Phrenzy: Haemorrhage of the Nose: Continued Fever: Scurvy: Lues Venera: Itch: Worms."

Smallpox, which devastated so many of the troops of the Continental Army, had been handled sensibly by many Rhode Island physicians. Doctor Jonathan Easton, a Quaker of Newport and an original Fellow of the Rhode Island Medical Society, inoculated three persons for smallpox in 1772, those

being the first cases so treated in Rhode Island.[6]

Another Rhode Islander, Isaac Senter, M.D., in the Continental Army in May 1776 reported: "I generally inoculated a regiment at a class who had it so favorable as to be able to do garrison duty during the whole time."[6] Coues had stated that it may not be too much to say that Washington's order regarding the inoculations of the troops under his command at Morristown in 1777 may have been a decisive matter in winning the Revolutionary War. It should be remembered that medical authorities give 1778 for Jenner's first investigations on cowpox.[7]

Typhus fever was treated by Doctor James Tilton as follows: "Although often compelled to let blood in the commencement of this fever, we were cautious of repeating this operation; and were disposed to avoid it all together when not demanded by a full pulse and other pressing circumstances. After bleeding, if that operation should be thought necessary, a vomit was deemed of excellent use by opening and squeezing all the glands of the body and thus shaking from the nervous system the contaminating poisons before its impressions are fixed. With this view the earlier the vomit is administered the better. During the prelude or those marks of approaching danger above described, a vomit may prevent the fever all together. When the fever is formed, mercury is of the greatest importance, so long as any signs of an inflammatory diathesis remain.

"This Sampsonian remedy has the power of subduing all manner of contagion or infection that we are acquainted with. Thus, besides syphilis, itch, etc., without fever, it is regarded as specific in smallpox, measles, scarlatina, influenza, yellow fever, etc., and is found to be not less successful in the early stages of Jail fever. The manner in which this remedy sets all the secretions afloat may serve in some measure to explain its beneficial effects. Hence it is that in yellow fever, remitting or any other fever, if we can only touch the patients' mouth with mercury, we regard him as safe."[1]

Typhus was easily recognized by purple spots and sores that developed on the body. Typhoid fever had not been identified as such. The dysentery which was present was

Fig. 1. Small set of medicine scales carried by Solomon Drowne, M.D. during Revolutionary War.

Fig. 2. Scalpels, probes, scissors, tweezers, and artery needles.*

*Similar instruments available for inspection in the Medical Society instrument collection.

a dibilitating infection of a malignant type seldom encountered today.[8]

A brief summation of therapeutic modalities of the period would seem to be in order. Acute inflammation was treated by irritants such as poultices or cantharides which produced blisters. Poultices made of wheat, bran, or flaxseed alleviated pain and swelling. Purging, sweating, and bleeding were also used for many diseases, while chemicals and botanicals such as sulfur, mercury, calomel, tarter emetic, Epsom salts, opium, ipecac, castor oil, Jesuit's bark (quinine), rattlesnake root, and ginseng were frequently administered in large doses. The doctor's instruments consisted of lances, knives, forceps, scalpels, scissors, hooks, probes, cups for blood letting, clyster pipes (for enemas), and saws for surgeons.[9] (Fig. 1 and 2.)

(Continued on next page)

HOSPITALS

Although there seems to be fairly general agreement among historians as to the extreme poverty of Revolutionary hospitals, Thacher writing in November 1775 stated: "Those brave men while in the service of their country, receive in sickness all the kind attentions from physicians and nurses which their circumstances require. They have the prayers and consolations of pious clergymen, and are destitute of nothing." Ashburn states that Thacher was an optimist, or the prayers of pious clergymen covered a multitude of needs.

There is abundant documentation that Thacher's views certainly were in the minority. Gibson wrote: "Handicapped by insufficient hospital facilities and attendants, sickness was never under control. Exposure, undernourishment, and neglect of sanitation developed many latent disorders that sent soldiers into hospitals. Here, bedded side by side with smallpox and typhus patients and exposed to contagion, they had but little chance to escape becoming victims of one of the infections. A foreboding of what might happen if hospitalized caused many a sick soldier to desert."

In one of the Bethlehem hospitals it was recorded that five patients died on the same straw before it was changed, and several of these victims had been hospitalized for only a slight disorder.

Again when Doctor Jonathan Potts reported for hospital duty at Fort George in July 1776 there were 1,000 patients with smallpox, dysentery, and bilious and putrid fever, and there were only four physicians and four mates in attendance. By September, nearly 50 per cent of the Northern Army was reported unfit for duty. This desperate situation caused a great anxiety throughout all the colonies, and a real danger existed that a continuation of hospital conditions might result in cessation of all enrollment. Governor Trumbull of Connecticut wrote: "Our men dare to face the British but are not willing to go into a hospital."

In response to a demand from all the colonies and the threat of some to withhold reinforcements, Congress in the spring of 1777 provided for the complete reorganization of the Hospital Department. The result was that for the first and only time during the war sickness was kept under control when the Northern Army resumed its offensive against Burgoyne.[8]

Hospitals are referred to in the Revolution; but this word was used loosely, and these units were very primitive. Hospitals were almost unknown in America in 1776, and military hospitals were known only from the British Army practice, which was almost entirely a regimental hospital practice. Hospitals were viewed with suspicion, being regarded as "a danger that accounted for 10 times more deaths than British guns." Tilton also noted, "There was strong evidence that infection is more dangerous than weapons of war." Rush described hospitals as "sinks of human life" that "robbed the United States of more citizens than the sword,"[10] while Lewis claimed that hospitals were the chief cause of death in the Colonial Army.[11]

The conceptualization of a hospital today and in the Revolution is in no way comparable. The term as they used it meant a service rather than an institution, and the facilities were as varied as tents, shacks, cabins, barns, private homes, or, in some rare cases, buildings specifically constructed for this purpose.

Illustrative of the type of cases hospitalized at this time are the diseases that caused the greatest morbidity: diarrhea, dysentery, peripneumony or pneumonia, malaria, smallpox, and jail fever or typhus, most of which was probably typhoid.[1] Diarrhea and dysentery were also referred to as "lax" or "flux." James Tilton reported on the total number of diseases in the Third Military District, which included New York City and its surrounding areas, for the period of the war: "Intermittent fever 625, Remittent fever 1,256, Typhus fever 551, Dysentery 1,269, Diarrhea 1,945, all other diseases 6,309." Interestingly, among the 12,000 cases there were only seven surgical operations, two amputations, one injection of a hydrocele, and four ligations of saphena vein for varix, this last giving discouraging results. Surgery was obviously not popular, and of course a "lack of anaesthetics and the certainty of infection made it a serious and horrible affair — to be avoided, if possible. Battle injuries and accident cases of course had to be treated,

but the treatment was apt to be what is now considered dirty dressing work."[1] In the Appendix to this paper are records of some military hospitals in Rhode Island during this period.

PEER REVIEW 1777 AND 1900 COMPARED

The evaluation of medical ability definitely varies among both contemporary observers and subsequent historians as evidenced by the following observations:

Thacher, an American, wrote from Albany October 24, 1777: "The hospital is now crowded with officers and soldiers from the field of battle; those belonging to the Hessians and British troops are accommodated in the same hospital with our own men, and receive equal care and attention. The foreigners are under the care of their own surgeons. I have been present at some of their capital operations, and remarked that the English surgeons performed with skill and dexterity; but the Germans, with few exceptions, do no credit to their professions; some of them are the most uncouth and clumsy operators I have ever witnessed, and appear to be destitute of all sympathy and tenderness toward the suffering patient."[12]

Lane in 1928, however, evaluated the British differently saying, "no medical corps in the modern sense of the word existed." Ever since the time of Charles II there had been a Physician General and a Surgeon General, and since 1758, Inspectors of Hospitals, but little is known regarding their functions. According to regulations, a surgeon and mate were attached to each regiment of foot. Although holding their commissions from the King, they were really appointed by the colonel whose servant they had originally been.[2]

This is at variance with the following: "Just what was the ability and skill of the Revolutionary surgeon, statistics extant help us little to determine. The American surgeon must have been more of a raw recruit than his British cousin. The latter hailed from a country which at that time laid claim to the best schools and hospitals."[13]

Lane, in writing about the French, said: "The organization of the Medical Corps and of the military hospitals of the French Army of this period was far in advance of that of other European countries, and the personnel was in general of higher quality."[2]

Nonetheless, Doctor Tilton who visited the French hospital at Yorktown in Virginia expressed this opinion: "In passing the wards of their hospitals their patients appear very neat and clean, above all examples I have ever seen. Each patient was accommodated with everything necessary even to a night cap. Nevertheless they were not more successful than we were. Even their wounded, with all the boasted dexterity of the French to aid them, were no more fortunate than ours."[2]

With this background material we will now review the various participating medical corps separately.

HESSIANS OR GERMANS

These German soldiers were mercenaries from the Provinces of Anspach and Bayreuth and were on an island off Newport from July 1777 to July 1778, when they retreated to Newport on the 27th of July, owing to the arrival of the French fleet, and encamped on Windmill Hill on Aquidneck. Of the 1,644 Anspach-Bayreuth troops who served in America, 461 were lost.

Fortunately, Doctor Johann D. Schoepff, the commanding medical officer of these troops, wrote a monograph titled, "The Climate and Diseases of America."[14]

His disdain and dislike for Americans is abundantly evident as shown by his description of them as "Lank, feeble, weak, without the bloom and hardy aspect of youthful health, the American is more like a rapid-growing weed than an oak, which attains to a durable strength by a slow growth!" Later, speaking of the American troops, he says: "The American troops, although they fight in a climate to which from youth they have been accustomed, invariably suffer from the inclemencies of weather, the insalubrity of swamps, and the fatigues of the campaigns, quite as much as, and even more than, the royal European troops. When our soldiers have been sickly, theirs have been doubly so, and disease has frequently been rife among them when our men have been enjoying the best of health." Again, denigrating the Americans because of their diverse backgrounds and diverse reasons for emigration,

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he says, "It seems as though all nationalities which have transplanted themselves hither had carefully discarded the one good side of their character in order to promote the equality of stations so dear to every American, because, as they probably knew, the black colors admit of but few shades."[14]

A footnote states: "That these disparaging remarks were reciprocated by our countrymen may be seen by the citations from the daily journal of that period. The **Boston Gazette** of November 2, 1778 has a letter from Warren, Rhode Island, dated October 18th, which states that on 'the day of the battle, the Anspach troops robbed every house in their way, and plundered families of beds and every rag of clothing.' "[14]

Doctor Schoepff reported that Seyboth's regiment in 1779 suffered more from scurvy in Rhode Island than had any other regiment in the army. He also notes that "smallpox loses much of its attendant horror and danger from the general inoculations. If there were no other advantages attending inoculation, the relief from the habitual dread of catching the disease would be reason enough for continuing its practice. There are few people on Rhod-Eyland who have had the smallpox. In deference to the sentiments of the greater part of the old inhabitants, who dread inoculation quite as much as infection, and in part owing to the obstinancy of several influential families, the greatest efforts are constantly made to avert the possibility of contagion. To prevent the dissemination of the poison, it has for many years been the custom to send those really affected, or supposed to be affected with smallpox, to a small island that lies near Rhod-Eyland. In order to propitiate the inhabitants, inoculation was repeatedly forbidden while the royal troops were there; since we have left, every wagon that arrives from the city is searched.

"On the other hand, the inhabitants scarcely dare to leave the island, but if they must come here, they are forced to submit to inoculation, in order to escape infection. The treatment of the patients on the little island, which is consequently called Bladder-Eyland, is not the most careful. The island is only separated from the mainland by a channel about 50 paces wide. No one ventures to cross as long as there are patients there. The means of subsistence are laid upon the shore, where they are sought by the man who is appointed to look after the sick. A physician rarely, if ever, crosses to the island, as he would not be allowed to visit any of his other patients subsequently, for fear he would transmit the contagion. When he must cross in spite of the risk, he visits the island in a complete suit of oil-silk, which is quite enough to excite alarm in the young and weak patients. As a rule, however, he inquires after the sufferers from this side of the channel, and prescribes at that distance."

An interesting footnote quotes Solomon Drowne, M.D. of Rhode Island, who wrote to his sister Sally from the General Hospital, New York, July 13, 1776, "I am glad our Assembly have allowed Inoculation, and hope you and Brother Bill not defer receiving that disease (smallpox) which taken by chance have proved the Bain of tens of thousands; when it comes so near you, clothed in gentleness, all its terribleness cast aside."

Schoepff also reported that croup (angina membranosa), which was common in England and other parts of Europe, but not Germany, also occurred in America, consisted of "a membranous skin lining the air passages and recognized chiefly by a high cooing tone during inspiration; and the mumps, which is a swelling of the glands in the neck and of the testicles. Both were principally confined to children, and the latter seemed to belong to the contagious diseases."

Postmortem examinations performed by Schoepff of hospital patients revealed that in at least two thirds of the autopsies he found large or small clots in the cavities of the heart and the large vessels. He mentions that the greater consumption of spiritous liquors to which his men were addicted was responsible. "Each man drank at least one quart and usually two quarts of liquor a week, and this intemperance was manifested by intestinal derangements, slow fever, general loss of strength, with which train of symptoms many depart from this world."

He also observed that despite all that had been said about the injurious effect of pork, in this Army, notwithstanding the constant consumption of salt pork, no ill effects had been observed, and moreover scarcely anything was known of the common skin dis-

eases which used to be laid to its account. Fevers with eruption were rare, at least in the army. In four years he had had but two patients with such eruptions as the "purples."

In his discussion of autumnal infections he mentioned remittent and intermittent fever as being prevalent; and they were often accompanied by bilious attacks, and assumed the perfect type of West Indian fevers. He felt the autumns of 1779 and 1780 were more favorable to the development of these fevers than the preceding ones. He hypothesized this in view of the scientific experiments on the importance of the vegetable kingdom in purifying the air that had recently been published by Doctor Jan Ingenhous.

He continued: "There is a belief, founded upon the universal experience, that the varieties of fever of which we are speaking are chiefly generated by emanations from foul, marshy, and stagnant waters; at all events, they abound chiefly in districts of this description. The level country of America is everywhere covered with vast swamps and morasses; myriads of plants, shrubs, and trees here find a most sulphurous nutriment in the vegetable earth that has been accumulating undisturbed for so many centuries; such places are consequently almost inpenetrable."

The importance attributed to the influence of climate and miasmata on health and disease is clearly demonstrated in Doctor Schoepff's book, in which a chapter is devoted to climate and another to diseases. The latter chapter contains a rather prolonged dissertation on the relationship of stagnant air and the effects of weather in producing various diseases.

Doctor Schoepff also mentions that there is quite a number of diseases dependent upon other than universal causes. Each summer many inhabitants are stricken down during the hottest days by what appears to be apoplexy; this is especially common after violent exercise, but occurs not infrequently when the individual has remained quietly in the house. He mentions also how "59 Hessians fell from the heat without receiving a wound. I have never had an opportunity to witness death from this cause: but, according to the accounts, some fall suddenly dead, whereas others pass first into a kind of frenzy; some become black and blue in the face and blood gushes from their mouths and nostrils, whereas others are found lying motionless beside the pool and spring where they had sought to slake their thirst.

"A peculiar kind of eruption, if it may be so called, known by the name of the 'prickling heat,' is almost universal here in summer. The skin is covered with a quantity of large or small red spots that are occasionally attended by a disagreeable itching sensation, from which symptom the name is derived. The spots are not raised, but come and go with the increase or decrease of the heat. People who keep indoors do not have them so often, or to so marked a degree, as those who are exposed to the sun. When the weather begins to moderate, this eruption disappears, and the skin desquamates . . ." He also noted that the rays of the sun are often powerful enough to raise vesicles on the tender parts of the body when exposed.[14]

An opinion on the healthfulness of Rhode Island, which is diametrically opposed to that of Doctor Schoepff, was written by Frederick Mackenzie, an officer of the Regiment of the Royal Welsh Fusiliers, who wrote on January 29, 1778, "Notwithstanding the frequent changes in the weather, the healthiness of this island is beyond a doubt. As a proof of it, the three Hessian Regiments of Ditfourth, Hayne and Bunan, amounting to very near 1800 effective men, have not more than 70 sick men on the lists, of all descriptions. The Landgrave's Regiment, indeed, out of 560 men, have about 60 sick. The extraordinary sickness in this regiment is differently accounted for. It commenced in April last, and continued during the whole campaign. Their officers say it was owing to the severe duty the regiment had during the last winter, for as the regiment was quartered nearest to Newport, and furnished their proportion for the guards and working parties at the north end of the island, their men were greatly harassed by marching eight or 10 miles to do duty, in all weathers, and bad roads. This may have contributed to it, especially when it is observed, that as the captains are obliged to furnish their men with shoes for a certain allowance, it is probable they were not

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so well provided with them as those regiments that wore out fewer. In my opinion the principal cause was their having lost their regimental surgeon early in the spring; and it is well known the company's surgeons have very little physical knowledge, and are totally ignorant of medicine and the proper method of treating dysenteries and intermittent fevers, which the soldiers are subject to at that season, and in the beginning of a campaign. Some neglect perhaps in the interior Oeconomy of the regiment, may have contributed to it, as much as anything; as I have frequently observed that those regiments that are most deficient in attention to interior oeconomy and management, have fewest men fit for duty.

"The sick of the British regiments have in general been more numerous than the Hessians. During the last campaign we never had less than 100, and sometimes 180 sick, out of 1700 men."[15]

THE FRENCH

The French fleet sent by King Louis to help the Americans arrived in Providence in 1780. In preparation for their arrival General Washington appointed Doctor Craik assistant director general of the hospitals to represent him, while the Rhode Island Assembly appointed Doctor Jonathan Arnold and Doctor Isaac Senter as their representatives. Hospitals were finally provided on a large farm in Tiverton near Colonel Pardon Gray's place and on a farm at Poppasquash in Bristol which had belonged to William Vassall, Esq., a Tory who had fled.

Doctor Jean Francois Coste, the commanding medical officer, is recorded as having stayed in Newport "with William Lindon at 456 Back Street, and in Providence at the house of Tillinghast on 'the main street this side of the bridge.'

"Blanchard, commissary of the French forces, records that, with Coste and Demars, the steward, he visited Poppasquash on July 13 to 'examine an establishment which M. deCorny had arranged for our sick,' and that on July 19, there were already 280 sick there. The patients with scurvy were doing well on a plentiful supply of cherries and vegetables, and Blanchard had time to note that the women were 'generally pretty and the bovines as handsome as those of Poitou.'

"In September about a tenth of the army was sick, and many had dysentery which did not seem to be dangerous. Coste, with Blanchard, inspected the hospitals and on September 12 was at Providence where the hospital was found to be 'in very good order.'

"In December the cold was very severe, and Admiral de Ternay was taken sick and brought on shore. Coste was sent for and found him very sick. He died at the house of Joseph Wanton of 'putrid fever' (typhoid fever) on the 15th.

"Such are the meager records of Coste's stay in Newport. Shortly after his arrival, on July 25, he finished his **Compendium Pharmaceuticum,** a brief pharmacopoeia in Latin for the use of the hospitals under his charge, which was printed by Henry Barber at Newport in 1780. It was, I think, the second pharmacopoeia to be published in this country. According to Garrison, the first one, likewise for use in military hospitals, was prepared by Doctor William Brown of Virginia for use in the Continental Army and was issued anonymously from the military hospital at Lititz, Pennsylvania, in 1778."[2]

Tilton had previously been quoted as having stated that, despite the fact that the patients were neat and clean and well accommodated at Yorktown, Virginia, the French physicians were not more successful than their American counterparts. He attributed this to two factors, their improper disposal of excrementitious matters and that their medical practice appeared to him to be inert. He stated: "When passing their wards, with the prescribing physicians I observed a great number of their patients in a languid and putrid condition, and asked, occasionally, if the bark (quinine) would not be proper in such cases? The uniform answer was no, too much inflammation. And when they attended my round of prescription and saw me frequently prescribe the bark, in febrile cases, and even for the wounded, they lifted up their hands in astonishment. Few or no chemical remedies were employed by them. One of their regimental surgeons declared that he never used opium. Their hospital pharmacopoeia consisted chiefly of potions, decoctions and watery drinks, fitted only for inflammatory disorders. All these circumstances considered, satisfied my mind, why

their ample accommodations gave them no advantage of us, in the result of practice. I was the more surprised, as Doctors Coste and Borgelli both appeared to be men of science, well qualified to make research."[14]

On the subject of health in the army, M. Claude Blanchard, Commissary in Chief of Rochambeau's army, speaks in positive terms. He said: "Notwithstanding this changeable weather which I have observed in Rhode Island during the whole winter, the country is healthy; the rest of my sojourn proved it to me. I have always had fewer sick persons in our hospital than in France; and when our army set out in the latter part of 1782 after staying two and a half years, we have not 10 sick in 1000 men." Assuming the army numbered 6000 men, the sick list would aggregate not more than 60 men.[17]

Thomas Chevalier de Villebresme, an officer with Marshal Comte de Rochambeau who was in the expeditionary force at Newport, has an opinion regarding Rhode Island that is at variance with Blanchard's. He said: "Rhode Island and Conanicut Island are rather fertile, but the air one breathes there has the reputation of being the most unhealthy in New England. Formerly these islands had been covered with woods and orchards which the English destroyed. Bivouacking there was extremely unpleasant because of the abundance of snakes, scorpions, mosquitoes, and especially the legions of horrible centipedes which wake up sleepers with their loathsome touch. In the few houses which remained almost intact we still were not protected from all the vermin which penetrated the smallest cracks. It was enough to drive one crazy.

"At the time of our arrival the heat was unbearable during the day, but as soon as the sun went down there was a penetrating dampness. Pestilential vapors came out of the ground and we felt ourselves chilled by the fever of that region, which is so difficult to cure. My robust good health managed to resist all these attacks; but the army was seriously affected, and every day we had numerous dead to bury in the cursed land."[18]

THE CONTINENTAL ARMY AND RHODE ISLANDERS

The medical officers of the Revolutionary army were divided into two classes: (1) Those who belonged to what was called "The Hospital" and (2) the regimental surgeons and their assistants, or as they were called, the surgeons' mates. The hospital physicians consisted of a body of medical officers appointed on the recommendation of the director-general and physician-in-chief of the army, and under his immediate control. They were as a class distinctly superior to the medical men who were attached to the various regiments. Their chief functions consisted in accompanying various divisions of the army and establishing hospitals in places where large camps were formed or where important military operations occurred.

The regimental surgeons considered themselves as entirely independent of the hospital. They made their reports, if they wrote any at all, to their respective colonels, by whom, as a general thing, they had been appointed to the positions they held. Many of them had not the **slightest qualifications for the performance of the duties of their station. They were appointed in most instances without examination, Massachusetts remaining for a long time the only colony which had any regulations in the matter.**[19]

How poorly equipped the Continental army was can be judged from the order issued by General Daniel Morgan on July 3, 1776 requiring the regimental surgeons to forward a report of the surgical supplies which they had in their possession. Only 15 responded, and "all of the instruments were reported to be private property, and amounted to six sets of amputating instruments, two of trepanning instruments, 15 cases of pocket instruments, 75 crooked and six straight needles. Among all 15 surgeons there were only four scalpels or incision knives for dilating wounds or any other purpose; three pairs of forceps for extracting bullets; half a paper and 70 pins; but few bandages, ligatures, or tourniquets and only two ounces of sponge in all."[19]

The caliber of the surgeon's mate is seemingly characterized by the Reverend William Hollingworth of New Jersey who, while visiting an ailing friend, one Reverend Fithian at Fort Washington, states: "He is reduced to the lowest state one would imagine possible for nature to support under, besides

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which he has no physician to attend him but an unskillful quack of a surgeon's mate and no nurse but an unknowing country lad."[20]

Despite the many shortcomings which have been cited, it is only fair to state that many Rhode Island physicians did make a remarkable contribution to the cause of the rebels. Others, however, were sympathetic to the English, and many of these left either voluntarily or were driven out.

Rhode Islanders are proud of the actions of those early citizens who successfully burned the Revenue Schooner **Gaspee** on June 9, 1772. It was one of the first overt acts of resistance by the colonists against British colonial domination. Since one of the participants was a physician who was called upon to perform medical services, it is fitting to include his account in a history of medicine in Rhode Island during the Revolutionary period.

Doctor John Mawney, after hearing the drum beat, hastened to Mr. Sabin's, the place of rendezvous, where he learned the object of the meeting; and, on being urged by some of his acquaintances, was induced to accompany them as surgeon.

STATEMENT OF DOCTOR JOHN MAWNEY

To this, (he says), I readily consented, and went to Corlis' wharf, with Capt. Joseph Tillinghast, who commanded the barge, it being the last boat that put off; and in going down, we stopped at Capt. Cooke's wharf, where we took in staves and paving stones; which done, followed our commander, and came up with them a considerable distance down the river; after which, we rowed along pretty rapidly till we came in sight of the schooner, when Capt. (the late Commodore Whipple), ordered us to form a line, which was instantly complied with; after which, we rowed gently along, till we got near the schooner; when we were hailed from on board, with the words, "Who comes there?"

Capt. Whipple replied, "I want to come on board."

The reply was, "Stand off, you can't come on board."

On which Capt. Whipple roared out, "I am the sheriff of the county of Kent; I am come for the commander of this vessel, and have him I will, dead or alive; men, spring to your oars!" when we were in an instant on her bows.

I was then sitting with Capt. Tillinghast, in the stern of the barge, and sprang immediately forward; and seeing a rope hang down her bows, seized it, to help myself in. The rope slipping, I fell almost to my waist in the water; but, being active and nimble, I recovered, and was the first of our crew on deck; when Simeon H. Olney handed me a stave, with which, seeing one that I took to be of the crew of the schooner, floundering below the windlass, I was in the attitude of levelling a stroke, when he cried out, "John, don' strike." Being very intimately acquainted with Capt. Samuel Dunn, I knew his voice, left him, and sprang back of the windlass, where there was commotion and noise, but which soon subsided; the crew jumping down the hold, I immediately followed, when I ordered them to bring cords to tie their hands, and told them they should not be hurt, but be sent on shore. They brought some tarred strings, with which I tied the hands of two behind, when John Brown, Esq., called to me, saying I was wanted immediately on deck, where I was instantly helped.

When I asked Mr. Brown what was the matter, he replied, "Don't call names, but go immediately into the cabin, there is one wounded, and will bleed to death."

I hastened into the cabin, and found Lieut. Dudingston in a sitting posture, gently reclining to the left, bleeding profusely, with a thin, white woolen blanket, loose about him, which I threw aside, and discovered the effect of a musket ball, in his left groin; and thinking the femoral artery was cut, threw open my waistcoat, and taking my shirt by the collar, tore it to my waistband, when Mr. Dudingston said, "Pray sir, don't tear your clothes, there is linen in that trunk;" upon which, I requested Joseph Bucklin to break open the trunk, and tear linen and scrape lint, which he immediately attempted; but finding the linen new and strong, could not make the lint.

I then directed him to place his hands as I had mine, which was, the ball of my left

hand on the orifice of the wound; and gave him the word to slip his hand under mine, and to press hard, to prevent effusion of blood; which being done, I went to the linen and attempted to scrape it into lint, but found I could not effect it. As daylight was fast coming on, and our time short, I then tore the linen into strips, for compresses and the necessary bandages; which was done, by knotting them into long strips, placed the compresses five or six deep, and with the ligatures by the lieutenant.

All being prepared, I told Bucklin to raise his hands, when I instantly placed the compresses on the orifice; and placing the bandage round the thigh, over the wound, and crossing it above, drew tight, so that the effusion of blood was stopped.

During the operation, I was several times called upon at the door, but was not ready. When the door was opened, many rushed in, and attacked the bottles. I having boots on, stamped on them, and requested others to assist, which was readily done. During this, Mr. Dudingston was carried out of the room, and I never saw him after, notwithstanding I had several invitations, through Dr. Henry Sterling.

When I came on deck, I saw Capt. Tillinghast, and some others. We got into the boat, and rowed up the river a certain distance, and went by land up to town; when Capt. Tillinghast, who was then living with me, after taking breakfast, went on the hill to view the smoking ruins of the vessel, which was all in flames soon after we left it.

JOHN MAWNEY[21]

From a subsequent statement of Doctor Mawney, it appears that Lieutenant Dudingston was not wanting in gratitude to his surgeon. After his wound was dressed, he offered Doctor Mawney a gold stock buckle, as a testimonial of his gratitude. This was refused; but a silver one was afterwards offered and accepted, and worn by Doctor Mawney, but a little while before his death.[21]

One of the outstanding physicians of the Revolutionary period in Rhode Island certainly was Doctor Isaac Senter of Newport. He was born in Londonderry, New Hampshire in 1753, and little is known of his early life but that he came to Newport and was a student of Doctor Thomas Moffatt, a Scotch refugee from the Jacobite cause.

Doctor Moffatt was one of the galaxy of medical men who made their home in Newport during the eighteenth century. He had the advantages of one of the best educations available. He practiced in Newport from 1750 to 1765. His activity on behalf of the Crown in promoting the execution of the Stamp Act precipitated a mob attack on his house, which resulted in property damage to his house, destruction of his books and papers, himself paraded and hanged in effigy. He sought refuge in the King's vessel which took him to New London, where he became comptroller of the King's customs. At the onset of the revolutionary troubles his devotion to the royal cause forced him to leave New London and return to Newport, where he resumed practice until Newport was evacuated by the British, whereupon he disappeared. An interesting side of his life was the fact that he was associated with the elder Gilbert Stuart in the manufacture of snuff in North Kingstown, at the locality now known as Hamilton, Rhode Island.

In marked contrast to his teacher, Doctor Isaac Senter, who was practicing in Cranston at the time of the Battle of Lexington, immediately joined the volunteers from Rhode Island and marched to Boston, where he soon made himself useful and prominent in the camp of the colonists. He was assigned to General Benedict Arnold's detachment that made the famous march on Quebec, which unfortunately ended either in death or imprisonment for all these noble individuals. He kept a diary which documented their hardships and courage.[22]

In 1776 he was elected surgeon of Rhode Island state hospitals, and he wrote the following letter to the **Providence Gazette** publisher, John Carter, in the month of February which excited the deepest indignation in the people of Providence regarding treatment of prisoners:

"February 22. Died in the General Hospital of this town Capt. John Lee, late a prisoner of the British Army, who a few days before, arrived here from Newport with a number more who were exchanged. He informed me he was born in New London, Con-

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necticut and formerly sailed as a master of a vessel from Georgia. There was left in the hospital a trunk, watch, etc. As he made no will, nor gave any directions respecting the above things I thought it my duty to make known to the public, that his relations might be made acquainted with his fate and upon application to the Steward of the hospital receive the above articles.

"Captain Lee was one out of seven of the above mentioned prisoners brought to this hospital, in the most deplorable situation. The condition they were in when brought here was enough to excite the conservatism of the most barbarous savages in the universe except those of Great Britian. Whoever could behold such spectacles of misery without emotion, must be callous to every feeling of humanity. The whole of their clothing when they arrived here (Captain Lee's excepted) was not worth a dollar. They were overrun with vermin, half rotten with scurvy and putrid fever, some of their extremities were frozen, and rotting through neglect; in five the condition was wretched beyond description. A large number of them were confined promiscuously in the hold of a vessel, officers, private negroes, etc., where they were half starved and denied even light for a number of days, and to complete their miseries they did not fail to receive the kicks and scoffs of the soldiers when the opportunity offered, who upbraided them with the epithet of 'damned yankee rebels.'

"This is the treatment freeborn Americans suffer, who have the misfortune to fall in the hands of the Britons, a nation formerly not less celebrated for humanity than for bravery; but alas how does such conduct demonstrate them to be lost of all sense of it."

In 1780 Senter was made physician and surgeon-general of Rhode Island. He left the Continental Army in 1779 and resumed practice in Cranston, but in 1780 moved to Newport to practice. Senter was probably one of the best of the physicians practicing at this time, and he was recognized as outstanding by his election to membership in the London and Edinburgh Medical Societies. His library was considered large and was rich in medical, scientific, and literary lore.[22]

He published several papers, one of which appeared in the **Transactions of the College of Physicians of Philadelphia** (Vol. 1, pt. 1, 1793, pages 96-130). The synopsis on the front page reads "An account of a singular case of Ischuria, in a young woman, which continued for more than three years; during which time, if urine was not drawn off with the catheter, she frequently voided it by vomiting; and for the last 20 months, passed much gravel by the catheter, as well as by vomiting, when the use of that instrument was omitted, or unsuccessfully applied. To which are annexed some Remarks and Physiological Observations. By Isaac Senter, M.D., Associate Member of the College of Physicians of Philadelphia, and Senior Surgeon in the late American Army. Read Jan. 5, 1790."

He read another paper on February 2, 1790, which appeared in the same volume of the **Transactions,** titled "Two cases of Retroversio Uteri to which are added a few remarks and observations on that disease and the different species of Procidentiae Uteri." Also in the same volume (Chapter XXVI, pages 232-38) appeard a third paper titled "Practical Observations on Phthisis pulmonalis; extracted from a letter from Isaac Senter, M.D. to Dr. William Currie. Read August 7, 1792."

The Rhode Island Historical Society has copious records of his activities after the war, which are most interesting and give an insight into his practice and professional and domestic expenses. Interestingly, he was one of the earlier physician obstetricians, and his records reveal 60 physicians in one year. Prior to 1750 deliveries had been handled by midwives.

The esteem in which this man was held is evidenced by the following: Brown University awarded him an M.D. degree in 1787 and appointed him a trustee of the institution. Yale also awarded him an M.D. in 1792, and Harvard in 1793. He died in 1799 at the age of forty-six.[6]

Another interesting and active physician in the Continental Army was Stephen Vigneron, a son of Doctor C. Antoine Vigneron and grandson of Doctor N. F. Vigneron. He was born in Newport November 25, 1748. His record, according to Bartlett's Rhode Island Colonial Records, is summarized as follows: "In January, 1776, inspector of saltpetre; in February, 1776 chosen surgeon's mate 2nd

regiment Colony's brigade, vice Ebenezer Richardson; in October, 1776 chosen surgeon Col. Cook's regiment; in November, 1776 chosen surgeon of all the forces to be stationed on Rhode Island; in December, 1776 chosen surgeon of Col. Tallman's regiment; in June, 1778 chosen surgeon Col. Topham's regiment; in February, 1779 chosen surgeon of Col. Topham's 2nd battalion of infantry." When the British occupied Newport he escaped on horseback, leaving his books and instruments, which were confiscated. He died of typhus on board the **Jersey** prison ship at New York, August 24, 1781, aged 33 years.[22] In the Appendix are reports by Doctors Vigneron and Harding and a hospital diet.[24]

Doctor Peter Turner practiced medicine in Warren, Rhode Island from January, 1774 until he became surgeon of Col. Christopher Greene's Battalion, Continental Army, in May 1777. On October 22, 1777, at the battle of Red Bank, Colonel Greene, with a garrison of 400 Rhode Island troops, took many more Hessian prisoners than his number of troops. Few Continental soldiers were wounded, but great numbers of the enemy were left on the battlefield. He rendered aid to them all, and this was noted. The commanding officer of the Hessians, Colonel Count Dunop, was mortally wounded. Doctor Turner attended the Colonel before his death. He was with the army in the pursuit of Clinton on his retreat through New Jersey and was present in the action at Monmouth in 1778, after having passed the winter of 1777-78 at Valley Forge. He was in camp at the seige of Newport under General Sullivan in 1778. Following the war, he settled in East Greenwich and became one of the outstanding surgeons of the era.[22]

Doctor Jonathan Arnold was born in Providence, Rhode Island on December 14, 1741. At the outbreak of the Revolution he was a member of the General Assembly of Rhode Island and, as such, had the honor to draft the act repudiating English rule in that colony.[22] He was Director of the General Hospital in Providence in the early part of the Revolution and also acted as Purveyor of medical supplies. As was pointed out earlier, he and Doctor Senter conferred with Doctor Craik in establishing a hospital for the French on their arrival, and after being refused the use of the College in Providence, settled on property of William Vassall at Poppasquash in Bristol.

Doctor Solomon Drowne, who was born in Providence, Rhode Island on March 11, 1753 also had an outstanding career in the Continental Army. He graduated from Rhode Island College (now Brown University) in 1773 and received his medical degree from the University of Pennsylvania and Dartmouth College. He entered the army as surgeon, serving under Doctor John Morgan, Director General of the hospital in New York at the time of the evacuation. He also served in the Rhode Island Hospital, in General John Sullivan's expedition on Rhode Island, and in Colonel Archibald Crary's and Colonel Amos M. Atwell's regiments.

During the Sullivan expedition a soldier from Col. William Livington's regiment received a severe skull injury which was passed upon by the regular army surgeons as a hopeless case. The soldier was about to be removed from the tent, when Doctor Drowne gave the case his personal attention. He trephined (or trepanned) a part of the soldier's cranium. After the operation, as the bone was raised from the brain, the wounded man, before he realized where he was, shouted out the balance of the command he had been giving on the field of battle. Doctor Drowne hammered down a Spanish silver quarter, and used it to replace the missing piece of skull. The man survived and lived nearly 30 years.[23]

He was held in such high esteem by Lafayette and the Counts de Rochambeau and d'Estaing that the chief of the medical staff entrusted their individual soldiers to his care when the French troops left for home.[23]

In a letter to his sister from Poppasquash dated August 16, 1778 Drowne wrote: "We arrived here yesterday from Tiverton and established the General Hospital on this neck, much contrary to my inclination. Though this Vassall seat would be truly pleasant were there not two or three hundred sick to be accommodated at it, and attended by us. The violent storm has made business for us. I said 'twas contrary to my inclination, because I was in full hopes and expectation it would have been fixed on Rhode Island.

(Continued on next page)

Fig. 3. Homestead of Caleb Fiske, lineal descendant of Roger Williams and one of the original members of the Rhode Island Medical Society.

"I was on Rhode Island 3 or 4 days, in the time of the wind — overturned markers, tents, etc. — the unhoused soldiers, exposed to the chilly N. East blasts and rain have been seized with dystenteries, etc."[23]

His life subsequent to the Revolution was one success after another. He served in various public capacities and was Professor of materia medica and botany at Brown University for 23 years. He was a delegate to the convention that concurred in the formation of a National Pharmacopoeia, the first in the United States, in 1820, and was an original member of the Rhode Island Medical Society.

There were two outstanding physicians, William Hunter and John Halliburton, practicing in Newport at the onset of the Revolution, who unfortunately sided with England rather than with the Colonists. Doctor Benjamin Waterhouse wrote: "We doubt whether Boston, New York, or Philadelphia ever had, at one and the same time, two practicioners of physic and surgery, better educated and more skillful than these two gentlemen." Their beliefs forced them to leave Newport.[22]

Mention of several other physicians who took an active interest in the Revolution is necessary. William Bradford, who commenced practice in Warren and subsequently moved to Bristol, bore the uncommissioned title of "a pillar of the Revolution."[13] He studied law after moving to Bristol and was a leading member of the committee of correspondence when our struggle with England commenced.

Amos Throop, M.D. passed much of his boyhood in Bristol, where the means of education at that time surpassed anything which was available in Providence. He was the first male accoucher in the Plantations. Doctor Throop was always prominent in town affairs and, as the Revolution drew on, was a prominent participant in the public measures which led to it. During the war he gave gratuitous aid to the American hospital physicians when requested, and his home was requisitioned for the French officers. When the Rhode Island Medical Society was formed in 1812, he was elected its first President.[22]

Levi Wheaton, M.D. entered the military hospital in Providence as a volunteer in 1778. In 1782, while serving as surgeon on a privateer, was captured and brought to New York. Here he served as a prisoner on the Prison Hospital Ship **Falmouth.** In 1812 he was appointed Professor of the Theory and Practice of Physic at Brown University Medical School.[22]

Caleb Fiske, M.D. was a lineal descendant of Roger Williams and served as a surgeon in the army of the Revolution in General Sullivan's expedition against the British at Portsmouth. He was one of the original members of the Rhode Island Medical Society and is named in its act of incorporation.[22] (Fig. 3.)

The following is a list of other Rhode Island physicians who took an active interest in the War of Independence:

James Ballasseure, John Bartlett, Nicholas Bogart, Isaack Bowen, John Chase, Elias Cornelius, Gorton Jerauld, Joseph Joslyn, John Martin, Reuben Mason, Samuel Montgomery, Stephan Munro, Jacques Pallifer, John Parish, Joshua Perry, Jachues Pulliser, Joseph Rhodes, Ebenezer Richmond, Edward Sands, James Walcott, Samuel Watson, Daniel Peck Whiple, John Wittredge, and John Young.[6]

It is probably invidious to give such brief accounts of some and none of many others, but there is a lack of documentary material and the reader will understand this.

APOTHECARIES

The first newspaper published in Providence was the **Providence Gazette and Country Journal.** The first issue, which appeared on October 20, 1762, carried the following advertisement:

TO BE SOLD,
by Samuel Carew.
At the Pestile and Mortar, the West Side

of the Bridge, in Providence, at the Shop lately occupied by Doctor Bass; A Fresh and general Assortment of the best of MEDICINE, CHYMICAL AND GALENCICAL.

Where may be had Bateman's Pectoral Drops, TURLINGTON's Balsam Of Life, STOUGHTONS' Elixir, DAFFEYS' Elixir Salutes, LOCKERS' Pills, HOOPERS' Female Pills, ANDERSONS' Pills, PLUMMERS' AEthiop, Cloves, Cinnamon, Mace, Nutmegs, Alspice, Pepper, Lancets and Syringes, Salt Peter, Borax, Pot Ash, Allum, Cooperas, red Lead, white Lead, Vermilion, Spanish Brown, Verdegrease, Indigo, Coffee, Rice, &c, &c, &c. Practitioners by sending a Note, will be as well served as if they came themselves, and may depend on having every Thing the best in its kind.[24]

From this advertisement is obtained a knowledge of what constituted a drug store in those days, and it is much the same now as then.

It will be seen by Carew's advertisement that he was not the first druggist in Providence, for he announces himself as the successor of Doctor Bass. Who the first druggist was is not known. It is not unlikely he was a physician. Bass was one, and so was Carew, although he does not so designate himself in his advertisement. Yet he is always so called by others; and after his death his successor refers to him as the late Doctor Carew. Further evidence that physicians who preceeded them sold drugs is not wanting.

In the next decade we find several other apothecaries opening shop with similar advertisements and offerings. The history of the drugstore as it developed during the ensuing 11 years, will be traced since this period, which includes the Revolution and the few years which immediately preceded it, is necessarily included for clarity and continuity. The following are examples:

On December 19, 1772, Doctor Samuel Carew's death is reported and Thomas Truman, his apprentice, continues the business at the old stand, near the Reverend Mr. Snow's meeting house. Mr. Snow was at first a member of the Beneficent Church and its first pastor. On April 10 of the next year, Mr. Truman annouces that he has moved "two doors further down the street."

On August 28 following, Mr. Throop noted his removal to opposite the Court House, which was not far from his former place of business.

Thomas Truman on February 26, 1774, gives notice that he has again moved, this time "to the house lately occupied by Captain Thomas Monro, opposite Mrs. Carew's, at the upper end of Broad Street near the Rev. Mr. Snow's meeting house."

Later the same year (March 19), we have a new druggist who in subsequent years is often heard from. John Chace gives notice that he has "just imported from London, via Boston, and to be sold . . . at his father's shop nearly opposite Messers Brown's store, A general Assortment of Drugs and Medicines of a Superior Quality. Also genuine Patent Medicines." The "Messers Brown's" referred to were Nicholas, Joseph, and Moses Brown, who were in business on South Main Street.

On June 18, the partnership between Bowen and Steele is dissolved, and Benjamin Bowen continues the business, as he says, "in the usual place."

A little later (July 9) John Chace announces fresh Drugs and Medicines for sale "just below the Great Bridge." Two years later (October 19, 1776) he is located "near the market," which was probably the same place as before.

On May 24, 1777 Thomas Truman, Physician and Surgeon, "acquaints the public that he now lives in Johnston . . . and continues his business as usual." He is now a Physician, but whether in his new location he sells drugs is not certain, nor is it known what has become of the old store. He does not, however, long continue his business in Johnston (whatever it may have been) for the following Spring (April 18, 1778) "he Advertises the Public in general, and his former Custermers and Friends in particular, that he has lately removed into Capt. Job Sweeting's house, in Broad street, where he has for Sale a Variety of useful and well chosen Medicines."[24]

The next we hear of him is in 1781 (December 8) when he advertises for patronage, and announces "that he has opened a 'WRITING OFFICE' at his house, where everything

(Continued on next page)

in the Scriveners' Way is performed in a neat, concise and accurate Manner, and on reasonable Terms."

In 1783 he has a partner, and Thomas Truman & Co. carry on the business at the same place, and there we will leave him.

The **Gazette** of August 9, 1777, carries following advertisement:

> Convinced that the Uncertainty of human Affairs at all times, and more especially the present, render it prudent to provide as much as possible against contingent Events, the Subscriber calls upon all persons, in any way indebted to him, to settle their respective Debts; the Scarcity of Money cannot now be admitted as an Excuse for further Delay; And willing to do as he would be done unto, he invites his Creditors to receive their several Demands against him. If those indebted shall not pay due Regard to this Notice, they may expect to be called upon in another Manner, by their Friend.—
>
> JONATHAN ARNOLD
>
> N.B. Said ARNOLD has for Sale, Salts, Jalap, Camphire, Senna, Rhubarb, Calomel, Tartar Emetic, and a variety of the most capital and useful medicinal Articles Practitioners and Inoculists may be served with them if applied for soon.

Mr. Arnold, it will be remembered, opened a store in 1763 in Doctor Joseph Hewes's house at the north end, and for aught that is known was still there. His experience in the collection of debts was not an uncommon one. The credit system was as prevalent then as now, and it appears to be as difficult to collect bills. Notices to settle bills appear often in the papers, and strange as it may appear even lottery tickets were sold on credit. The difficulty in collecting pay for tickets drawing blanks may be easily imagined, but the sellers had the advantage even so. The lotteries were authorized and such indebtedness was legitimate.

March 14, 1778, a new drug store is announced; or rather it is the first mention of it which has been noticed. It begins in this wise:

> Just Received, via France, a very valuable assortment of the most capital
>
> MEDICINES
>
> Which are to be sold wholesale and retail, as cheap as can be purchased in the United States by Henry R. Tillinghast, and Comp. At the shop of Col. Daniel Tillinghast, below the great bridge in Providence.

This is followed by a long list of drugs and medicines, but there is nothing to show whether it is a new store or one long established.

Some months later (October 3) we find the following:

"A complete Assortment of MEDICINES, Chymical and Galencical, to be SOLD by Drown and Tillinghast, at their shop, in the House of Solomon Drown, Esq. just above the market."

To this is added: "Those to whom the Aid of the healing Art may be requisite, if pleased to employ said Drown, will be attended, to the best of his Ability and Fidelity."

As "Henry H. Tillinghast, and Comp." are not heard of again, it is supposed that the Tillinghast with Drown is the same one, and yet the location of the two stores are different, one being "below the great bridge" and the other "just above the market."

On November 28 of the same year John Chace announces "Fresh drugs and medicines imported directly from Holland."

Passing over two years we next hear from Amos Throop on August 26, 1780. This is how he addresses his fellow citizens:

"To be sold by Amos Throop At the Pestle and Mortar, NOT opposite the State House, as formerly, but in Westminster Street." — "Not a Large but General Assortment of MEDICINES." A long list follows, and then he adds, "Westminster Street is on the West Side of what is called the great Bridge, sometimes known as by the Name of New or Back Street, a little to the Westward of Mr. Jacob Whitman's, where stands on the right Hand as you pass out of Town, a large three Story House, built by Mr. Jonathan Ellis, latterly occupied by Messieres Church, West, Fry & Co. Something of an odd place for a Drug Shop, but the World is odd, and every one in it. I am of the World."

There is no mistaking this locality. If every advertisement had been as definite and precise, the early history of the town would be much more easily written.

Having at some length brought the history of the drug business to the year 1782, less attention will now be given to details. Since

sufficient extracts from the records have been provided to illustrate the methods of the dealers in the olden time, henceforth our notices will be briefer and our progress more rapid.

In 1783, James Mason imported drugs and sold them at the store of James Sabin on the west side of the Bridge. The next year we find Doctor Stephen Randall, who was a surgeon in the Army of the Revolution, engaged in the drug business at what is now No. 636 North Main Street. He was succeeded by his son-in-law, Shadrack Manton.

Since Newport was occupied by the British, Providence offered the only opportunity to study the apothecary shops of this period.[24]

DENTISTRY

Since dentistry is an allied field of medicine, the following interesting account is included in an attempt to be all inclusive.

Isaac Greenwood was born in Boston and, in 1768, lived next door to Paul Revere. Before the Revolutionary War Greenwood made musical instruments and shaped ivory into everything from billiard balls to false teeth. He was an ingenious mechanic and also made wooden legs, walking sticks, nautical instruments, umbrellas, and handles for warming pans. The two men traded with each other. Greenwood made the teeth for Revere to use in his work, and Revere engraved Greenwood's business cards.

Soon, Greenwood, too, began to set false teeth, and he became so skillful at it and other dental work that he is called our first native-born dentist. He could attach "natural teeth on plates of gold or silver with springs if wanted." "A single tooth," his advertisement said, "will only cost 21 to 61 shillings each."

During the war he served on armed vessels. After the war, in 1787, he settled in Providence and placed this advertisement:

> Isaac Greenwood Dentist, Cures all Complaints incident to the Teeth and Gums, substitutes artificial Teeth in the neatest Manner, and doubts not but nine Years Practice has afforded him Experience sufficient to execute every part of the above Art with the greatest Ease and Exactness — As he never Wishes to rise in Esteem, unless gained by pure Merit, those Persons who pay an Attention to their own or Children's Teeth, may depend on being perfectly satisfied with his Performances — Brushes and Powder suitable for the TEETH.
>
> N.B. Those Gentlemen or Ladies who cannot conveniently wait on him shall be attended to, at a little more Expense, upon sending Directions two doors South of Mr. Jacob Whitman's, West Side of the Great Bridge.

His four sons all became dentists. Of these, John was the most famous. It was he who made George Washington's false teeth. He made our first president two sets. One is buried in the tomb at Mount Vernon. The second set is on display in the Museum of the Baltimore College of Dental Surgery. He was the first dentist to use a foot drill. It was made out of an old spinning wheel which had belonged to his mother. John made great contributions to the art of dentistry in this country, but his father had the distinction of being the first American-born dentist.[36]

According to Mrs. Florence Parker Simister, John learned many things from a French dentist he had met at the Battle of Rhode Island. This dentist undoubtedly was Doctor Jacques Gardette, a contemporary of Lafayette, who was commissioned as a surgeon in the French navy. When the French fleet and army arrived at Newport in 1780, Gardette successfully engaged in the practice of general and dental surgery. [25]

THE BRITISH PERSPECTIVE

Recorded material regarding the activities of the British Medical Corps in Rhode Island during the Revolutionary period is practically non-existent. This is surprising, since England during this period was one of the leading countries in the world in medical science.

Attesting to the accuracy of this statement is the following excerpt from a letter from the librarian of The Wellcome Institute for the History of Medicine, London, England, dated November 24, 1975: "I was interested to receive your letter of the 14th of Nov. accompanied by a copy of a letter to you by the British Ambassador in Washington, requesting information on original material concerning medical care in the British army and navy in Rhode Island during the American Revolutionary War.

(Continued on next page)

"We have nothing here on this, nor has the Library of the Royal Army Medical Corps, Millbank, London S.W. 1. The Historical Section of the Ministry of Defence Library, Whitehall, London, S.W. 1 . . . tell me also that they have nothing."[26]

Among the few references found are the following:

Doctor Henry Stephens, a surgeon, had been in His Majesty's service some years, but he had become so wearied and disgusted with cruelties practiced by the British that he escaped at Newport on June 24, 1778. He accomplished this by going ashore at Newport and purchasing a boat to take a sail. He had been the surgeon on the frigate **Lark.** He was received with open arms by the people of Providence and immediately entered the army as a surgeon and physician. The hospital at Providence was then in the College, where Doctor Stephens took up his abode.[27]

A second physician, Richard Bayley, was born in Fairfield, Connecticut and studied under William Hunter, returning to New York in 1772. He wrote a treatise on membranous croup (diphtheria) and angina trachealis (putrid sore throat). Subsequent observers believe the clear description of the tenacious membrane was that of diphtheria, whereas the putrid ulcers suggested streptococcal pharyngitis.

Bayley was a loyalist. Following a revisit to England, he returned to America in 1776 as a surgeon in the English Army under General Howe. When the British took possession of Newport, Rhode Island, he served as hospital surgeon at the post, but later resigned and resumed practice in New York.[28]

Another interesting comment on British medicine was made at the Battle of Monmouth. Apparently General Clinton thought that Washington's surgeons were better than his own when he left a church full of wounded at St. Peter's in Freehold and the following note: "I commend them to your Christian care."[5] One wonders whether Clinton was of this opinion or if he felt a large number of wounded would be an encumbrance to Washington. It is difficult to comprehend such an opinion, since Britain was the medical center of the world at this time.

A prolonged search by the Curator of Manuscripts, John C. Dann of the Clements Library of the University of Michigan, finally uncovered documentary evidence of British activity at Newport.

Although not extensive there are reports of staff and troop movements to and from His Majesty's General Hospitals at New York and Newport. It can be assumed that some of the men in the 22nd Regiment had been at Rhode Island, as well as men in the other regiments whose return show their presence there. (Appendix A-E.)

When the British evacuated Newport in 1779 the records of the city were carried to New York by the Tory town clerk. Unfortunately, the vessel in which they were transported was sunk in the harbor. Later, the ship was raised and the records returned to Newport. Salt water damaged most of the records. Although they have been cleaned and mounted on silk, some of them are almost illegible. This accident may account for the scarcity of the medical records of the British armed forces stationed at Newport during the Revolutionary War.[29]

It is quite obvious that the evaluation of the quality of medical care rendered by the Germans, French, British, or Americans is dependent upon whose report you read. Surprisingly, from an unbiased viewpoint, it seems paradoxical that the European nations were not able to render medical care far superior to what the colonists could provide. These foreign nations had a far-advanced educational system by comparison to that of the Americans. Therefore, either they did not choose to send their best medical support, or the immaturity of medical science was such that extensive medical background was not necessary to render the best medical care then available.

From this overview of the four army medical corps it appears that the hastily organized, ill-equipped, neophyte American Medical Corps conducted itself medically on a par with the others and in many cases was superior to them. The Americans recognized that smallpox given by inoculation resulted in a marked decrease in mortality and morbidity and conferred lasting protection. Washington's inoculation of his troops is thought to have been one of the decisive factors in the American success.

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"The Air Of Rhode Island Is Good"*

By John E. Farrell, Sc.D.

Medicine is defined as the science and the art of preventing, curing, or alleviating disease, as practiced by physicians.

Therefore, to understand how Medicine fulfilled its role in the Rhode Island colony during the period of the American Revolution one must have an understanding of the overall problems affecting the people living there at that time, their hardships as the result of the disruption of their normal way of life, and their acceptance of the reduced availability of an already limited form of medical care. Equally to be considered must be the availability of physicians, their limited training in the art of healing, the lack of drugs and supportive health services, the demands of the military for their services, and the effect of the allegiance of prominent British-born physicians to the King and the British cause.

From 1720 until the time of the Revolution, Newport was the second most populous town in New England. In 1776 there were 5,299 residents and an additional 1,100 living on the island beyond the town limits. Providence at that time had only 4,355 residents. In 1770 Newport's foreign trade was greater than that of New York with its 17,000 population. Between 1739 and 1770 great fortunes were made in the triangular trade with Africa and the Barbados, in which rum from Newport was exchanged for slaves in Africa, who were in turn exchanged for sugar and molasses in the Barbados, which were brought back to Newport to be made into more rum.

As the seat of government of the Colony, and as the busiest port of commerce, Newport attracted highly-educated physicians from Europe, whose teachings undoubtedly had a great impact on local physicians and upon young students interested in the healing art. One of the first such eminent physicians was David Vandelight, a student of medicine in the most celebrated school in Holland, who, as a brother-in-law of Nicholas, John, and Moses Brown, was apparently attracted to Rhode Island as much by mercantile inducements as by the practice of healing. As a skilled chemist he introduced here the Dutch method of separating spermaceti from its oil, which brought much wealth to the Plantations; he also is recorded as giving the first practical instruction in anatomy here.

Within 16 years before the outbreak of the War four eminent physicians came to Newport from Scotland. William Hunter arrived in 1752, and his talents soon became apparent, as six years later the Assembly appointed him Surgeon-General to the troops raised in Rhode Island, a post for which he was well trained, as he had been a surgeon in the British army

(Continued on next page)

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*From the journal of Claude Blanchard, Commissary of the French Auxiliary Army, 1780.

before coming to America. In 1756 he gave the first formal course of anatomical lectures in this country, and it is recorded that the tickets for admission to the course were printed on the backs of playing cards, presumably for economical reasons. But by the time the War broke out Doctor Hunter had overcome his prejudice against the House of Hanover and had become a warm supporter of the King and his ministers. As a consequence of this he was removed from Newport with many other persons who were obnoxious to the Colonial Government. Subsequently, he was allowed to return to Newport, where he resided until his death in 1777.

Doctor Thomas Moffatt also came to Rhode Island from Scotland with Doctor Hunter, and in addition to his medical practice he crossed the Bay to establish a Scotch snuff factory in Narragansett with the father of the famed portrait painter, Gilbert Stuart. Moffatt's strong endorsement of the Stamp Act resulted in his being driven from the country in 1772, with much of his property destroyed in the process.

About 1750 Doctor Richard Halliburton, a prominent English physician, arrived as a surgeon on a British frigate. When he married Miss Brenton, a Newport lady of high family connections, he resigned his commission and settled in the Colony to practice medicine. However, his allegiance to the Crown remained strong, and he was closely watched during the early part of the War. Soon after the British forces left Newport for Long Island and New York, Halliburton became the subject of a blackmail that eventually drove him from the Colony. The bearer of his letters containing secret intelligence to the British threatened to expose him, and hush money was demanded. Halliburton paid, and the blackmail continued. As a result, he slipped out of Newport harbor one evening for Long Island, then made his way to New York City, where the British offered him a choice of a hospital surgeoncy there or service in Halifax. He preferred to go to Canada, and another fine physician was lost from Rhode Island.

Doctor David Oliphant was the fourth of the prominent group to arrive in the area about 1750. He practiced many years and apparently adjusted to the political climate of Newport, for he remained there until his death in 1802.

Thus, it was physicians like these who helped lay the foundation for medical care in Rhode Island, bringing to the American born aspirants to the practice of the healing art the skill and training acquired in the medical schools of Europe. American medicine of that era, then, was merely a heritage from the past — European medicine at its best. With neither medical schools nor hospitals in the colonies, the preceptor method of teaching, augmented with texts by European physicians of prominence, provided the education for the young student who would be a follower of Hippocrates.

What, then, was the status of medicine in the world at the time of the American Revolution?

STATUS OF MEDICAL PRACTICE

In the century prior to the American Revolution there had been an immense amount of new and rewarding medical and health research along diverse lines. The protection and care of the sick had prompted the establishment of institutions in Europe where collections of sick people encouraged observations, analysis, and discussion among physicians by furnishing excellent opportunities for comparative studies. With the rise of universities in Italy, and later in Prague, Paris, Oxford, Edinburgh, and elsewhere in western Europe, the teachers of medicine were drawn away from the life of the hospitals, and were offered the attractions and prestige of serving as university professors and lecturers. As a result, the study of medicine rested more on a familiarity with the theories about disease rather than actual experience with sick persons. This emphasis on theory, doctrine, and systems lasted well into the eighteenth century, and it remained for the great clinician, Herman Boerhaave of Leyden University, to reassert the eminent role of the "bedside" teacher. To him more than to any other man do we owe the modern school of medical instruction, especially in the English-speaking schools. His driving influence resulted in his pupils founding the Edinburgh medical school and through it the best medical teaching in the English-speaking countries of the world. We have already noted that Newport and Rhode Island were bene-

ficiaries of Edinburgh-trained physicians who came to this Colony.

Of comparable influence to Boerhaave was his pupil, the Swiss physician Albrecht von Haller, whose texts on the elements of physiology of the human body marked the modernization of the subject of which it treats. Others who advanced the healing art in this era were Doctor Stephen Hales who had proceeded to investigate the dynamics of the circulatory system; Leopold Auenbrugger, a Viennese physician, who in 1761 invented the method of percussion as a means of outlining the position of the internal organs, especially those of the chest; and Giovanni Battista Morgagni, professor at Padua for 56 years, who performed an enormous number of postmortem examinations, and at the age of 79 issued from his vast experience his text on "The Seats and Causes of Disease," recounting the life history of the patient, a history of his diseases, and the events related to his final illness and manner of death, thus providing the anatomical concept in the study of disease which is the main element in modern diagnosis.

However, internal medicine lagged far behind surgery. The anatomical reforms of Vesalius were not followed by any commensurate progress in physiological knowledge which internal medicine as a science demands. It is true that texts improved in the first half of the seventeenth century, and the expanding development of new colonies in the Americas and elsewhere in the world brought forth new remedial drugs and a better knowledge of infectious disease, but much of the knowledge was a long time in spreading down from the medical centers to the outposts of civilization, such as the American colonies.

Undoubtedly the centuries of strife that marked the history of all Europe from time immemorial provided the physicians of each era with an increasing knowledge of surgical techniques resulting from the demand for repair of wounds, that probably defied, in most instances, any assurance of life saving. Thus we find that during the eighteenth century few new principles were introduced into surgery, even by the greatest surgeon of the time, Sir John Hunter. However, due to the growth of knowledge in normal and pathological anatomy, there were improved surgical techniques, so that operations were carried out that had seldom been attempted before.

In 1728 Sir William Cheselden advanced surgery with operations for cataracts, and he also developed the lateral operation for stone; in 1736 the first successful operation for mastoid was performed, and 16 years later Jacques Daviel originated the treatment of cataract by extraction of the lens. The invention of the screw tourniquet by Jean Louis Petit was added to his surgical successes resulting from his improvements of techniques in amputations.

Since it was not until 1799 that Sir Humphrey Davy discovered the anesthetic properties of nitrous oxide, or laughing gas as it became popularly known, the favorite anesthetic in Europe and the colonies in America at the time of the Revolution was drunkenness.

PHYSICIAN ALSO PHARMACIST

The duties of the apothecary and of the physician were then, and long afterwards, united in the same hands. Every physician learned early of the variety of herbal concoctions native to his area that had beneficial medicinal value, and, indeed, the growing of herbs, many imported from foreign lands, was both an avocation and a vocation for many physicians. Doctor Solomon Drowne, an outstanding Rhode Island physician who served throughout the Revolutionary War as a surgeon with the army, and who ultimately settled in Foster, where he built a spacious mansion on an elevation which he called Mount Hygeia, founded a botanical garden there where he even raised and prepared his own opium. He is recorded as listing as his favorite medicines those of "butternut pills," "decoction of mallows," and "pussy willow tea." The oil from an edible fruit of the American tree **Juglans cinerea** was the base for the butternut pills, while the boiling down of the mallow family of plants (cotton and hollyhock are well-known plants of this order) provided a treatment to allay irritation and alleviate inflammatory soreness, swelling, or pain. Doctor Drowne's "pussy willow tea" was used in treatment of rheumatism, and, like quinine, in intermittent fever, catarrh of the nose,

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the common cold, and neuralgia. Its basic ingredient was salicin, a bitter tonic and antiperiodic glucoside in white powdery crystals produced by willow trees.

The physicians in the Colony had for generations secured their drug supplies from England, where the approved Pharmacopeia had given official standing to such drugs as paregoric, ipecac, tartar emetic, spirit of **sal volatile** or **sal ammoniac,** used as a deobstruent and resolvent; valerian, used as a nerve stimulant; sweet spirits of niter; balsam or tincture of benzoin, used to heal wounds; and colchicum, a preparation of the seeds or bulbs of the meadow saffron, used in the treatment of gout. Quinine, from cinchona barks, had long been in use for malaria, typhoid, and other fevers, and opium, of course, had produced the alkaloids morphine and codeine which were used in a great variety of cases, most commonly for the purpose of procuring sleep and for relief of pain.

These, then, were heritages that the American-born aspirant for the role of physician received as he undertook to treat the ill and wounded of the colonies, where medicine was still more medieval than modern. With neither medical schools nor hospitals, little understanding of infection and asepsis, and equally limited knowledge of public health safeguards against epidemic diseases, the Rhode Island physicians born and bred in the Colony were indeed men of courage, who faced the dual task during the period 1776-1782 of fighting in the ranks of the military for the preservation of the political freedom of the new nation, as well as preserving the health of all the colonists.

Historical data are sadly lacking on the actual services rendered by Rhode Island physicians during the Revolutionary War if one seeks only for the dramatic story of great surgical accomplishments in the treatment of the soldier wounded in battles, or of heroic activities that saved the civilian population from epidemic illnesses at a time when there was a desperate want of drugs, surgical instruments, and supportive supplies which had previously been available from England.

The data that are available, however, do reveal some astonishing facts that to this writer, at least, indicate that the unwritten record of medical service by aspiring American-born physicians during the Revolutionary period could indeed be a very bright chapter in the history of medicine in Rhode Island.

TEMPER OF THE TIMES

Review with me for a moment the temper of the times here in our Colony, as well as the sister colonies that formed the nucleus of this budding new nation. The great majority of the residents had come from Great Britain. Their loyalties to the mother country, and to the King, had been strong. From the beginning of the Colony it had supported England in her struggles with France, Spain, and Portugal and it shared in the benefits derived from England's victories when the Treaty of Paris was signed in 1763. The following year the molasses and sugar act of 1739 was due to expire and thereby relieve the commercial and manufacturing industry of the colonies of the duty imposed on those products. But England not only renewed the act in 1763, but she extended import duties upon various articles of domestic consumption.

Then followed the Stamp Act which provided for the raising of revenue in the American colonies by the sale of stamps and stamped paper for commercial transactions, real estate transfers, law suits, marriage licenses, inheritances, and newspapers. It also provided that British soldiers in the colonies should be quartered in the homes of the people.

History well records the ire of the colonists toward this action. When enforcement proved impossible, England, realizing her mistake, repealed the act in 1766. Yet there was no deep-seated hostility to the Crown among the people of Rhode Island. The repeal of the Stamp Act was welcomed with great demonstrations of joy, and the general feeling was that a mistake had been rectified and there would be no more talk of tax collectors.

But in May 1767 a new scheme of taxation was devised, which imposed import duties upon glass, lead, paints, paper, and tea. The plan avoided the objection to internal taxes which had been the principal feature of the Stamp Act. It did resurrect, however, the old question of taxation without representation, and the people of the colonies were angry. Talk of secession again surged to the fore.

In 1768 a Rhode Island physician, Josias Lyndon, the Governor of the Colony, wrote what was considered one of the most loyal and yet earnest and frank communications directed to the mother country citing the grievances of the colonies. Lyndon, who was born in Newport in 1704, was well-educated, and at the age of 20 was clerk of the lower House of the General Assembly and later clerk of the Superior Court of Newport County. As a solution to the great strife of political partnership for election of either Samuel Ward or Stephen Hopkins as Governor — a strife that had gone on for 10 years — Josias Lyndon was a compromise candidate for Governor in 1768, and he served a one-year term during one of the most exciting periods in New England history. Some of his statements to the authorities overseas, although respectful and loyal, were at the same time a strong protest of the grievances heaped on the colonies.

He noted that we are "transplanted from Britain, subjects of the same King . . . united with her in religion, laws, manners, and language, and animated with the same love of freedom . . . and by the goodness of God, without any expense to the Crown, although at much expense of their own blood and of their children's, they settled this, your Majesty's colony." He cited the charter of Charles II to Rhode Island which pledged to the inhabitants of the Colony "all the liberties and immunities of free and natural subjects born within the realm of England, among which was the exclusive right of giving and granting their own money by themselves or their representatives."

For about two years there was a period of comparative calm in spite of the great resentment that was held for the King and his revenue collectors. With an estimated one-third of the population of the Colony against armed resistance, the private interests of merchants often got the better of their patriotism. As a result, it was more difficult to adhere to the non-importation agreements than to make them. In Newport the matter was quite serious, as the town had shown strong Loyalist tendencies almost from its beginning. As a result, the merchants were prompted to set aside the agreement of non-importation which the Providence merchants had pledged in the fall of 1769 to maintain until every portion of the revenue act should be repealed.

Then, increasing colonial resentment brought the first act of violence, the famous **Gaspee** burning in June 1772, when a royal ship of war was captured and sunk and the first British blood of the Revolution was shed. The British Lieutenant Dudingston, who had detained unoffensive vessels, plundered the people on both shores of Narragansett Bay, and illegally used the Massachusetts courts instead of those in Rhode Island to try cases in the enforcement of the revenue laws, had grounded the **Gaspee** on Namquit Point, and on the evening of June 9 the nearby colonists vented their feelings by burning the vessel.

MOBILIZATION FOR WAR

Providence and Newport, in particular, must have been tense with excitement when the news of the battles of Lexington and Concord was reported. While open warfare with Great Britain, in spite of the strong Loyalist party in the colonies, was expected, the strategic importance of the great seacoast port of Newport, and the accessibility to Providence at the head of the bay, caused immediate concern that the area would be a prime target for attacks by the armed forces of the King.

The General Assembly of Rhode Island ordered a so-called Army of Observation to be raised, and all the militia companies were ordered to drill a half day every two weeks. The Army at the beginning was reportedly established for the purpose of repelling any "insult or violence that may be offered to the inhabitants" by the fleets and armies which surrounded them. After Bunker Hill the Colony was put on a war footing, and every man who was of age and physically fit was required to hold himself in readiness for active service.

In June 1776 the Assembly met in Newport and voted to establish a hospital in each county for the inoculation for smallpox. A few members of the Assembly protested the act. The delegates to Congress were also instructed to urge a general system of inoculation in the Army, and also in the Navy, as smallpox was reported as raging to a

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fearful extent in Canada. A hospital was established that summer at Providence under the direction of Doctor Jonathan Arnold and a list of 400 persons inoculated in September and October is still preserved in the historical archives of the state.

Most of the soldiers were young and strong, and the transition to a military regime of outdoor life was quite in keeping with their normal civilian life. As Claude Blanchard, commissary of the French Auxiliary Fleet wrote in his Journal after coming to Newport in 1780, "the inhabitants of the entire country are proprietors. They till the earth and drive the oxen themselves. This way of living and this sweet equality have charms for thinking beings." The "physically fit" requirement of the military, therefore, was focused mainly on the smallpox inoculation. And rightly so.

THE WORST KILLER IN WAR

Historians have written that smallpox was probably the worst killer during the Revolution. As John Adams noted after the 1776 expedition against Canada, smallpox "was 10 times more terrible than Britons, Canadians and Indians together." While the direct cause of the disease was not known, overcrowding in the housing of troops and unsanitary surroundings were vital factors in spreading it once it broke out. A Doctor Jonathan Easton who started his medical career in Rhode Island 10 years prior to the Revolution is recorded as having inoculated three persons for smallpox in 1772, the first cases so treated in the state, but apparently the disease presented a far greater threat to the regiments of soldiers than to the civilian population of the Colony.

The smallpox inoculation by incision was followed by a single dose of **jalap,** a medical preparation of purgative properties concocted from the root of the climbing plant Ipomoea purga, which treatment was followed with a program of diet. In 1760 Robert and Daniel Sutton of England introduced inoculation by puncture and subsequently reported that in 30,000 cases they had had 1,200 fatalities, using smallpox serum from a human being. It was not until 1796 that Edward Jenner inoculated with a vaccine made from a pox-infected cow. In 1798 he reported 23 cases.

The high mortality of the military from infectious diseases was pointedly narrated by a Doctor Tilton in his "Economical Observations on Military Hospitals," published in 1813, when he stated: "It would be shocking to humanity to relate the history of our general hospital (New York Hospital) in the years 1777-1778, when it swallowed up at least one-half of our Army, owing to a fatal tendency in the system to throw all the sick of the Army into the general hospital — whence crowds, infection, and consequent mortality too affecting to mention. My brethren of the faculty will probably think it an interesting fact that more surgeons died in the American service, in proportion to their numbers, than officers of the line — a strong evidence that infection is more dangerous in military life than the weapons of war."

With the Colony on a war footing, and with every man of age and of good health required to hold himself in readiness for active military service, with fortifications started along the shores of Narragansett Bay, and with all livestock removed from Block Island and the islands of the bay, except Aquidneck, Rhode Island prepared itself for the threatened invasion.

AVAILABILITY OF PHYSICIANS

There is no census of those who practiced the healing art during this trying period in the state's history, but historians have listed the names of some physicians and surgeons of this area who served in the Army of the Revolution. Let us consider, then, the apparent status of the doctor population.

As already noted, the famed Scotch-trained physicians, Hunter and Moffatt, and Halliburton of England fled the Colony because of their strong allegiance to the King. Doctor Benjamin Waterhouse, a Newport native who had studied and practiced medicine in the town for several years, left the Colony a year before the outbreak of the War. He was then 21 years of age, and he went to England where he was placed under the tutelage of a Doctor Fothergill, a relative of his mother. He studied medicine in Edinburgh and Leyden until 1780, when he returned to reside and practice in Massachusetts. He is credited with introducing vaccination to this country.

With the departure of these outstanding physicians the health care of the people of

the Rhode Island Colony, including the soldiers in the Continental Army, rested with an extremely small nucleus of young men who were ultimately to become the medical leaders of the state. Consider that at the outbreak of the War in 1776 the age of the most prominent senior physician of this group, Doctor Amos Throop, was 38, and the other distinguished surgeon of the day was 35-year-old Doctor Jonathan Arnold. Doctor Peter Turner was 24; both Solomon Drowne and Isaac Senter, 22; Pardon Bowen, 18; Levi Wheaton, 14, and Stephen Gano and Stephen Randall, both 13!

Unfortunately there is a paucity of data on the actual medical accomplishments of these young doctors in terms of techniques of treatment. We may assume therefore that they followed to the best of their abilities the lessons they had learned from the foreign-trained physicians and from the available textbooks that had been imported from Europe. The historical archives within the state contain personal ledgers indicating names of non-military patients treated by some physicians and medications administered, but the clinical reports of diagnosis and results of treatments remain obscure.

But serve the military these physicians did with courage and enthusiasm. A brief review of historical reports on some of their activities is warranted.

Doctor Amos Throop (Fig. 1) was a Connecticut native who came to Providence without means or friends. But his medical skill brought him an extensive practice, and he married a Mary Crawford, whose Scotch heritage may have been a factor in persuading the doctor to spend a considerable part of all he was worth in the purchase of foreign drugs before the outbreak of the War would cut off imports. And lest there be a miscarriage in the mail, she sent a duplicate order on the next sailing vessel. When both orders were filled, her husband was nearly bankrupt. But the large supply of drugs was a great boon, both medically and financially, and they were used both for the civilian needs and for use in the treatment of soldiers quartered in University Hall, at Rhode Island College (Brown), which had been converted into a barracks and later a hospital.

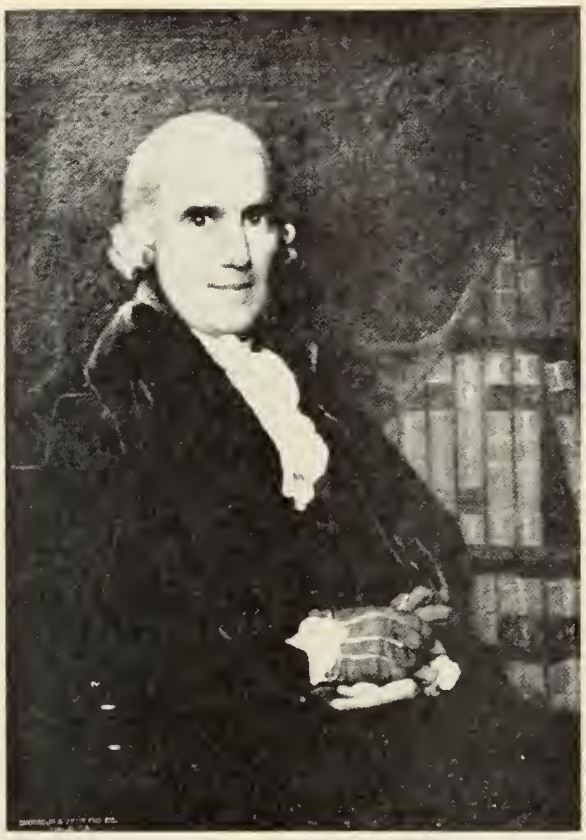

Fig. 1. Amos Throop, M.D., first President of the Rhode Island Medical Society, treated patients at an improvised barracks at Rhode Island College (now Brown) during the Revolution.

HOSPITAL BEGINNINGS

As previously noted, Doctor Jonathan Arnold, the great-great-grandfather of Theodore Francis Green, was named director of the hospital authorized by the General Assembly for the inoculation of the new troops enlisted in Rhode Island. Apparently his skill and leadership was widely known, for he went from Providence to New York to serve at New York Hospital, which the state Provincial Congress had taken over for barracks, as well as for hospital uses. Arnold is recorded as having done the first surgical operation at the hospital — the amputation of an arm. He served throughout the war in various capacities, including a directorship of the hospital established in Providence to care for the troops of General Sullivan's division, which defended the state against the British. Doctor Arnold was a member of the General Assembly in 1776, and a member of the Continental Congress from 1782 to

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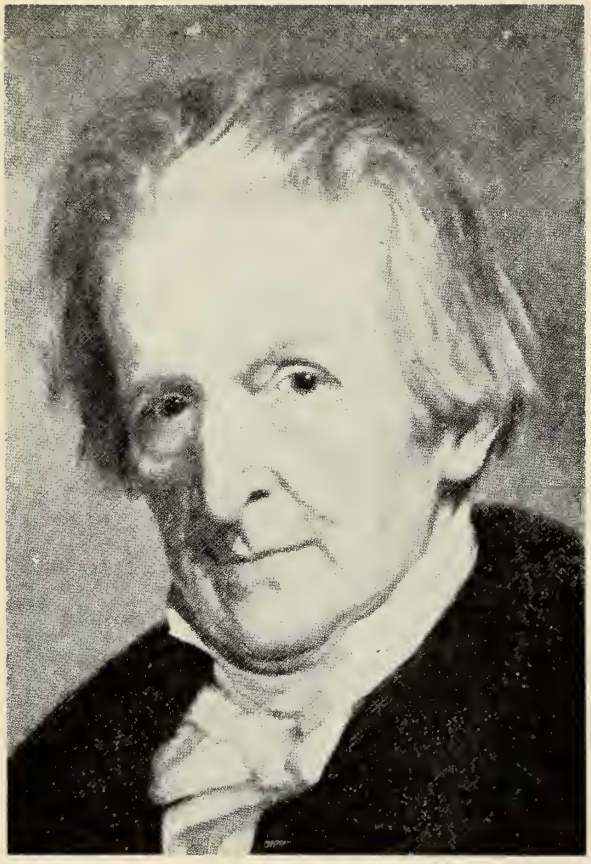

Fig. 2. Levi Wheaton, M.D. at age 20 served as a surgeon on a privateer and was subsequently taken prisoner.

1784, after which he moved to Vermont to engage in agricultural pursuits and also serve as judge of Orange County.

Certainly the concept of a hospital in the Revolutionary era was far different from modern hospitalization programs. Although the General Assembly voted in 1776 to establish a hospital in each county, there is no evidence that the act was fulfilled. The "hospitals" for inoculation of the military against smallpox, and possibly for a screening of the general health of the enlistees, were certainly temporary in nature.

The long-term care of those ill and wounded, and the latter appear to have been in the minority in Rhode Island, was carried out with the utilization of large homes for the most part. Historical references indicate that a "hospital" for the military was established at Bristol and one also at Warren. The major hospital base, however, was at Providence, where the new Rhode Island College, later renamed Brown College, was taken over for military purposes. The late Professor Walter C. Bronson, in his history of Brown University, notes that in December 1776 the colonial troops marched into Providence when the British arrived in Newport, and "unprovided with barracks they marched into the College and dispossessed the students, about 40 in number." The Corporation records of the University note years later that "As the College Edefice was taken for barracks and an Hospital for the American Army, and continued to be so occupied by them and the troops of France, from December 7th, 1776 until June 1782, the courses of education in the College were (in great measure) eliminated." When University Hall was finally reoccupied by the College it was in pretty bad condition from damage done by the military inhabitants. The College asked the Congress for $7,660 for use and damage to the Hall, but got only $2,779.13, and that eight years after the end of the war.

With the closing of the College those students seeking a medical education continued preceptorships with older physicians and then joined the Army. Stephen Randall, a native of North Providence, continued his studies under Doctor Jonathan Arnold, and then became a surgeon in the Army for which he received a pension. His training must have been thorough, for after the war he became an eminent doctor and accumulated large land properties in Rhode Island and Vermont. Stephen Gano of New York with his college career interrupted, studied medicine with his uncle, a Doctor Stites and at the age of 19 enlisted in the Army as a surgeon. But in 1786 he turned from medicine to the ministry. After serving several pastorates in the New York area, he accepted the call to the First Baptist Church in Providence where he was a distinguished pastor for the remaining 36 years of his life.

Levi Wheaton, 14 at the outbreak of the war, volunteered at the medical hospital in Providence, and then served, at the age of 20, as a surgeon on a privateer which was captured off Block Island. He was taken as a prisoner to New York City on the British Frigate **Vestal** and placed on medical duty on the prison ship **Falmouth**, where he reported he had the opportunity of rendering services to his imprisoned countrymen.

One of the most courageous of the Colony's military surgeons was Doctor Isaac Senter, a native of Londonderry, New Hampshire, who came to Newport to study under the prominent Scotch physician, Doctor Thomas Moffatt. He was with Colonel Benedict Arnold on the historic march through the Maine wilderness as a 22-year-old surgeon, and his journal of that disastrous invasion is probably one of the best records of the event. The hardships and misery suffered by the soldiers is graphically related by Senter. He was told by his superiors that he could turn back with casualties, but he refused and was himself captured and held as a prisoner of war, assigned the task of caring for the sick and wounded. He was later allowed to return to Rhode Island, and in 1779 he took up residence in Pawtuxet. He was subsequently appointed Surgeon and Physician General of the state, and he moved to Newport to engage in medical practice. (Fig. 3.)

Fig. 3. Issac Senter, M.D., whose journal of his march with Colonel Benedict Arnold through the Maine wilderness is probably one of the best records of that disastrous invasion.

THE BEST FOUGHT ACTION OF THE WAR

For nearly three years the British army occupied Newport. During that time American trade was destroyed as the fleet prevented ships from entering the area. Property was plundered, and the citizens suffered great destitution. The prices of all kinds of provisions and household necessities were abnormally high, and price controls had to be adopted. The fear that the British stranglehold on Newport might result in Rhode Island becoming the base for an invasion of the remainder of New England led to the battle that Lafayette called "the best fought action of the war."

In April 1778 General John Sullivan was appointed to command the troops in Rhode Island. He had as his surgeon in Command Doctor Solomon Drowne, a 25-year-old Providence native, who had graduated from Brown in 1773 and after studies under Doctor William Bowen at the University of Pennsylvania and at Dartmouth, entered the Army and served until the end of the war. He was a surgeon's mate at the General Hospital in New York at the time of the evacuation of the American troops from that city, and in 1777 he returned to Providence to serve at the hospital there for seven months before being promoted to rank of Surgeon in Colonel Archibald Crary's regiment.

In July of 1778 twelve French ships of the line and four frigates entered Narragansett Bay, and the British troops all withdrew to the town of Newport. An August plan of attack called for the French fleet to land an expedition of 4,000 men on the harbor side, and an expedition of land forces under General Sullivan to march from the northern end of the island. However, a violent gale swept the area, scattering the fleet, and forcing Sullivan to abandon his attack. Then the French fleet departed in a hurry for Boston for repairs, leaving the Continental Army on its own to fight the British. Sullivan had lost not only much of his equipment, but more important two to three thousand of his men due to disaffection with the situation and also because of illnesses from the miserable weather conditions.

On August 29 the British forces marched

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out of Newport in two columns and by two roads, and at seven o'clock in the morning the battle started on the northend of Aquidneck Island. The battle raged for seven hours with the British ships opening fire on the right flank of the Americans. The carnage was reported as being frightful, with the Americans reporting 211 killed, wounded, or missing and the British a total of 1,023, including those taken prisoner. When General Washington notified Sullivan the next day that Lord Howe was headed for the island with 5,000 British troops, it was decided that the American troops should withdraw. A masterful retreat was effected that night with the loss of only 15 men, but the battle prevented occupancy of New England by the British troops.

HEALTH OF BRITISH TROOPS

The health of the British troops during their stay in Newport is told in an interesting comment by Lieutenant Frederick MacKenzie, an officer of the Regiment of Royal Welch Fusiliers in his diary of the happenings from 1775 to 1781. He relates as of January 29. 1778:

"Notwithstanding frequent changes in the weather, the healthiness of this island is beyond a doubt. As proof of it, three Hessian Regiments of Ditfourth, Hayne, and Bunan, amounting to very near 1,800 effective men, have not more than 70 sick men on the lists, of all descriptions. The Landgrave's Regiment, indeed, out of 500 men, have about 60 sick. The extraordinary sickness in this Regiment is differently accounted for. It commenced in April last and continued during the whole campaign. Their officers say it was owing to the severe duty the Regiment had during the last winter, for as the Regiment was quartered nearest Newport and furnished their proportion for the Guards and working parties at the North end of the Island, their men were greatly harassed by marching eight or ten miles to duty, in all weathers, and bad roads. This may have contributed to it, especially when it is observed that as the Captains are obliged to furnish their men with Shoes for a certain allowance, it is probable they were not so well provided with them as those Regiments that wore fewer.

"In my opinion, the principle cause was their having lost their Regimental Surgeon early in the Spring; and it is well-known the Company's Surgeons have very little Physical knowledge, and are totally ignorant of medicine and the proper method of treating Dysenteries and intermittent fevers, which the soldiers are subject to at that Season, and in the beginning of a Campaign. Some neglect perhaps in the interior Oeconomy of the Regiment may have contributed to it, as much as anything; as I have frequently observed that those Regiments that are most deficient in attention to interior Oeconomy and management, have fewest men fit for duty.

"The Sick of the British Regiments have in general been more numerous than the Hessians. During the last campaign we never had less than 100, and sometimes 180 sick out of 1,700 men.

"There was a good deal of sickness among the Inhabitants last summer, but I think it should be attributed to their want of the usual quantity of fresh provision, than to any insalubrity in the air of the Island."

HARDSHIPS OF INHABITANTS

There was indeed a great deal of sickness among the inhabitants. In 1779 destitution in Rhode Island was very great, and historian Arnold cites that "two thousand persons driven from Rhode Island were scattered about, homeless and penniless, through the State, but chiefly in Providence, dependent upon public or private charity."

The winter of 1779-80 was one of great severity. The entire bay was frozen over for six weeks. Extreme and widespread suffering was experienced throughout the area, but particularly in Newport. Even provisions of fuel were scarce, with wood at ten silver dollars a cord. Potatoes were two dollars a bushel. People endured consequences of their ignorance of sanitary science, and ancient wharves were the open sewers of the towns; the tide failed to clean them, and the summer sun caused them to exhale "pestilent vapours" at low tide. They were at all times productive of diseases, the origin of which was attributed to every cause but the true one.

Ague and fever were undoubtedly major complaints, and the physicians relied on their stock of home produced or imported drugs for treatment. However, bloodletting, a procedure first taught by Erasistratus of Chios, the father of physiology, at the great medical school in Alexandria in 322 B.C., still sur-

vived as a standard procedure in medical practice in the Revolutionary era of the Americas.

In the Rhode Island Historical Tracts it is recorded of Doctor Levi Wheaton, of whom we have already written, that "His practice was based on the theory that diseases in this climate, at least, are generally inflammatory, and that when inflammation is controlled the disease subsides as a necessary consequence. It was a common remark with him that we do not bleed enough; he had not had occasion to regret bleeding in more than two or three instances in the whole course of his practice, but he had frequently regretted the omission of it."

The practice of bloodletting persisted into the eighteenth century, and the Memoir of Doctor William Ingalls, who practiced in Boston and taught at the Brown Medical School from 1811-1815, as written by his son, relates that it was the custom of the people in this region to "be bled," especially in the spring, with the patients coming to the doctor's office for the operation, "not only as though it was a matter of course, but because they thought it was a 'duty,' and essential in promoting the maintenance of their health." Pondering on the custom Doctor Ingalls arrived at the conclusion that phlebotomy should not be performed without an investigation as to the state of health of the applicant, and if he were in good health, there certainly was no necessity for his quota of blood being lessened. Thus it appears that Doctor Ingalls was instrumental in causing the abolition of "a pernicious habit."

Rosanna Eddy, daughter of a Warwick family that moved to Newport, tells in one of her narratives how she defied tradition and a medical procedure of those days when Captain Read, whose family had adopted her, was seized with a virulent fever which soon arrived at a crisis. She relates that physicians "as was the custom in those days, forbade his having a drop of cold water, and protested that it would be almost certain death" if he did take any. However, as the good Captain appeared to be dying, she decided to take matters in her own hands, and she wet his lips with cool water, then urged him to take swallows which appeared to help him, so she continued and finally he recovered.

SURGERY IN THE MILITARY SERVICE

The military physicians all bore the title of surgeon, but records indicate that the bulk of the services rendered were related to internal medical procedures rather than surgery. There is little literature on military medicine as practiced during the Revolution, at least following skirmishes or battles in Rhode Island. Undoubtedly, such surgery as was performed was radical, and certainly without the supportive services with which we are accustomed today the percentage of recovery was very low. Some idea of the views of the citizenry on Army surgery may be gleaned from the historical reference about Doctor William Turner, brother-in-law of General James M. Varnum, who served for three years with Colonel Christopher Greene's Regiment. After the war Doctor Turner became the first surgeon to establish a practice in surgery in Kent County, and it is reported that "coming from the Army the good people of the area looked upon him with no little distrust, fearing that he might take off an arm or a leg without even so much as saying 'by your leave.' But this feeling of apprehension soon wore off, and he was engaged in a very large practice extending ten miles in every direction."

There is little literature of a clinical nature by physicians who treated the soldiers. However, one Brown College alumnus, Doctor Barnabas Binney, who was graduated with the class of 1774 and who was a senior surgeon in one of the Continental Army hospitals from 1777 until the close of the war, wrote a thoughtful study of "A Remarkable Case of Gun-Shot Wound" which brought forth the comment from one critical historian that the "remarkable" part was apparently the fact that the soldier survived.

Since the American Navy had its inception in Rhode Island, it is probable that the first Navy surgeons may have been the physicians from this Colony who manned the war vessels and equally the privateers that ran the British blockade of Narragansett Bay to intercept cargoes of supplies destined for the British invaders. In June 1775, by an act of the Rhode Island General Assembly, two vessels were chartered, fitted out, armed, and manned. Named the **Washington** and the **Katy**,

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Aesculapius Comes To The Colonies

By John F. W. Gilman, M.D.

Rhode Island and Providence Plantations, named by the first Royal Charter of the Colony promulgated by King Charles II of England in 1663, three years after the Stuart Restoration, was the longest name for the smallest Colony in America. The double name was occasioned by the two population centers in the Colony, Newport on Rhode Island and Providence at the head of Narragansett Bay. Prior to the Revolution, Newport was the fifth city of the Colonies after Philadelphia, New York, Boston, and Charleston. With the British occupation of Newport the population of the town decreased by two-thirds to five thousand people and never again competed with Providence in size. The Royal Charter of Rhode Island from the King was delivered to the Colony by the first doctor of the Colony, Doctor John Clarke, who in addition to his role as physician and statesman was the first pastor of the Baptist Church in Newport. (Fig. 1.)

Doctor Clarke had studied both medicine and theology in Leyden prior to coming to Boston in 1631. From Boston he was banished in 1638 for his Antinomian beliefs along with William Coddington and Anne Hutchinson. He settled first in Portsmouth, Rhode Island, then moved to found Newport the following year. In 1644 he became pastor of the First Baptist Church in Newport. In 1651 he and Roger Williams went back to England, where Doctor Clarke took up the practice of medicine during the next 12 years. In 1663 he returned to Newport with the Rhode Island Charter and there continued medical practice until his death in 1676. It is interesting that the year following the arrival of the Colonial Charter to Rhode Island, which allowed democratic government to the people and complete religious freedom within the Colony, the Colonial Assembly awarded the first M.D. degree in America to Captayne John Cranston. "Whereas the Court hath taken notice of the great blessing of God on the good endevor of Captayne John Cranston of Newport, both in phissicke and chirurgery, to the great comfort of such as have had occation to improve his skill and practice, etc. the Court does therefore unanimously enacte and declare that the said Captayne John Cranston is lycenced and commistioned to administer phissicke and practice chirurgery throughout the whole Colony and is by this Court styled and recorded Doctor of phissicke and chirurgery by the authority of the General Assembly of this Colony."

Subsequently the physician, Captayne Cranston, became Attorney-General and later Governor of the Colony of Rhode Island. Details of his career and medical training are

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unknown. For most doctors in the colonies, medical training was a matter of apprenticeship to a senior physician. A very few of the early doctors were trained in Europe and then at the Protestant schools of Leyden or Edinburgh.

Scientific medicine was nonexistent during the seventeenth and eighteenth centuries, not only in America, but in Europe and the world. The major medical influence abroad was the classical Galenical view, and this was imported to the New World. Galen's theory held that the body was composed of four cardinal elements — water, fire, air, and earth which comprised the four principal humors of the body — phlegm, blood, bile, and black bile. Excessive quantities or improper temperature of these humors resulted in disease. The treatment of these problems depended on diet, administration of herbs, and bleeding. These theories had survived from the Greeks. They were vigorously attacked by Paracelsus (1493-1541) who opposed all Galenicism and denounced the humoral theory, substituting straight chemistry in its place. The eighteenth century further reduced Galenicism when smallpox was successfully controlled with vaccination, and scurvy was cured with oranges and lemons. The classical importation of Galenicism to New England is well illustrated by the medical log of the ship **Hannah and Elizabeth** on the trip from Dartmouth, England to New England, from May to August in 1679:

"May 27: Hen Dawson, an itching humour treated with letting of blood. Nath Stanbury, pain in his head and teeth treated with six purgative pills, resin of jalup, and oil of cloves.

"June 28: Rich Gourding, bite with a dog on ye wrist treated with oyntments and emplaisters balsam for seven days.

"July 22: Goodwife Hutchins, with toothache treated with blistering emplaisters.

"July 23: Goodman Hutchins, much troubled with flemye treated with a pectoral syrup."

With the common ailments logged on the trip to New England and spread through the colonies there were from time to time much worse illnesses. Included among these were the great epidemics of smallpox, yellow fever, and malaria. These devastating epi-

Fig. 1. John Clarke, M.D., first doctor of the Colony, delivered the Royal Charter of Rhode Island from the King of England in 1663.

demics in the colonies came at a time when doctors were few, the people poor, supplies scanty, and knowledge nonexistent. Complicating any approach to these illnesses was the total absence of medical institutions and organizations, for there were no hospitals, medical schools, or medical societies to support the individual efforts of physicians. The greatest of the recurrent colonial epidemics was the smallpox, so named to separate it from the great pox of syphilis. Up to 1721 in Boston there had been eight epidemics of smallpox in that town. In retrospect it is estimated that 60 per cent of the colonists were attacked and that 10 per cent of these died. The first medical article in the colonies, published by Thomas Thacher in 1677, was a broadside: "A Brief Rule to Guide the Common People of New England. How to Order Themselves and Theirs in the Small Pox or Measles."

The first successful attack on the smallpox was reported back to England from Constantinople in 1718 by Lady Mary Wortley Montagu, wife of the English Ambassador who learned of the Turkish technique of inoculation of serum from a single pox to a healthy

(Continued on next page)

person. In Boston the Reverend Cotton Mather read of this method in 1716. When in 1721 smallpox was brought to Boston in the sailing ship, **Seahorse,** from the West Indies, the first case was recorded May 12. By May 27 there were 80 cases, and by June 22 a hundred deaths had already occurred. At this time Cotton Mather (1663-1728) persuaded Doctor Zabdiel Boylston to initiate the inoculation described by Lady Montagu. Just as Lady Montagu had inoculated her two daughters, so Doctor Boylston inoculated first his 6-year-old son and his two slaves before offering the inoculation generally.

A violent opposition to Doctor Boylston's inoculations rapidly developed led by the only M.D. in Boston, Doctor William Douglas, who had trained in Edinburgh and Leyden. Doctor Douglas objected that inoculation spread smallpox; the people objected that it was against God's will and came from foreigners. On July 21, 1721 the Selectmen of Boston convened and forbade Doctor Boylston from further inoculations. But the overall statistics of the 1721-1722 epidemic favored Cotton Mather and Doctor Boylston. Altogether there were 7,989 cases of smallpox with 844 deaths. Doctor Boylston inoculated 286 persons, of whom six died. At this time in London inoculation was being used scantily. Inoculation was begun in 1718, but by February 1723 only 145 persons had been inoculated. Then in 1722 two of the Royal Princesses were inoculated and passed through it successfully — a development that turned the tide in London in favor of inoculation (variolation as it became named). In 1724 Doctor Boylston visited London, became the first foreign member of the Royal Society, and was awarded 1,000 guineas by the King.

However, the development of inoculation in 1721 did not prevent further smallpox. Esther Forbes in her prize-winning book, **Paul Revere, the World He Lived In,** describes the Boston smallpox epidemic of 1764 during which the Revere children were afflicted and Doctor Joseph Warren inoculated John Adams. Before that storm of illness was over 4,977 people had taken smallpox by inoculation by doctors, of whom 46 died, while 699 persons had taken smallpox "in the natural way" with 124 deaths.

With the outbreak of the War of Independence in 1775 the scourge of smallpox continued. It was a particularly devastating problem during the attack of General Benedict Arnold on Quebec in 1775. On that formidable expedition up the Kennebec River into Canada, Doctor Isaac Senter of Newport served as surgeon to the Rhode Island troops. The plan to add Canada to the colonies in the fight against England was defeated at Quebec. The Colonial troops pushed on to Montreal where Doctor Senter organized a hospital to deal with the sick and wounded. Of 1,900 soldiers attacking Quebec 900 became sick, mostly with smallpox. Then it was that Doctor Senter received permission to administer inoculation and inoculate himself at the same time. Later General Washington was much concerned about smallpox in the Continental Army. In 1776 he had Mrs. Washington inoculated in Philadelphia, and during the winter, while the Army was at Morristown, he arranged for large-scale inoculations of the soldiers.

The major resolution of the smallpox problem did not occur until after the Revolution, when in 1796 Doctor Edward Jenner in England discovered from observing the clear, unscarred complexions of the milkmaids that they had had exposure to kine pox or cowpox. Cow-pox formed a matter used in a way similar to inoculation with smallpox, which protected against smallpox without introducing the disease. Vaccination was introduced into America by Doctor Benjamin Waterhouse, one of the outstanding doctors of Newport then and now. (Fig. 2.)

Benjamin Waterhouse was born in Newport in 1754 into a Quaker family. As a schoolboy he was a classmate of Gilbert Stuart. In 1770 at age 16, he was apprenticed to the loyalist doctor, John Halliburton of Newport, for five years. Then in 1775 with the inception of the Revolution he was sent to London to stay with his Quaker uncle, Doctor John Fothergill, who in later years was a benefactor of Pennsylvania Hospital and Trustee of the New York Hospital. In London Waterhouse again met Gilbert Stuart, encouraged him in his paintings, found suitable living quarters for him, and had Stuart

paint his and Doctor Fothergill's portraits. He also became the owner of the first Stuart self-portrait.

In due course Stuart became the apprentice of the popular London painter, Benjamin West. In his five years with West, he developed into the master portrait painter of the age, while Waterhouse went on to Leyden, where he acquired a medical degree. These two men both lived out the American Revolution in England, but returned to America with much to give the new nation. Stuart painted portraits of the first six American presidents, but his foremost effort was the three portraits of Washington — the Vaughn portrait of 1795, the Lansdowne full-length likeness of 1796, and the Athanaeum portrait painted in Germantown in 1796 that satisfied both the artist and the General, but not Mrs. Washington. The Athanaeum portrait was never finished, remained in Stuart's possession until his death, but has since then adorned the one dollar bill and has been etched on the American mind as George Washington, the most famous portrait in America.

Benjamin Waterhouse graduated from Leyden in 1780, practiced briefly with his uncle, Doctor Fothergill, then returned to Newport, where in 1783 he accepted the invitation to become the first Harvard professor of the theory and practice of physic and join with Doctor John Warren, professor of anatomy and surgery, and Doctor Aaron Dexter, professor of chemistry and materia medica, at the founding of the Harvard Medical School in the older Harvard College founded in 1636. The major medical activity of Waterhouse was his introduction of vaccination into the United States in 1800, using kine pox imported from London instead of the earlier inoculation from a single smallpox — the variolation technique introduced by Cotton Mather and Doctor Boylston in 1721. Doctor Waterhouse learned of vaccination from reading "Inquiry Into the Causes and Effects of the Variolae Vaccinae," written by Edward Jenner, the discoverer of the technique, who began vaccination in 1796. With the importation of cow-pox into Boston in 1800, Doctor Waterhouse created a temporary monopoly of the materials and dispersed the vaccine to practitioners only on

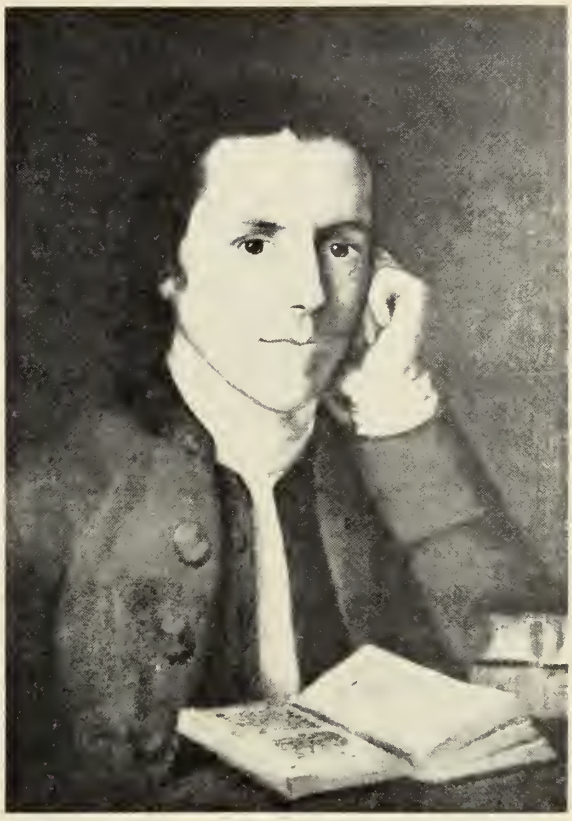

Fig. 2. Benjamin Waterhouse, M.D. is generally credited with having introduced vaccination for smallpox in America.

receipt of their agreement to pay a quarter of their fee or one hundred and fifty dollars.

The monopoly was quite temporary, however, for other physicians acquired the imported vaccine, and many physicians transferred kine pox from patient to patient. This great discovery at the end of the eighteenth century remains the present technique to prevent smallpox in the twentieth century and one of the major discoveries of medical history.

The other major medical advance of the eighteenth century was James Lind's discovery of the curative effect of oranges and lemons in scurvy. Utilizing 12 sailors, sick at sea with scurvy in 1747 aboard the warship **Salisbury**, he divided them into six pairs, each pair to receive a different medicine. This earliest controlled clinical therapeutic trial on record revealed the cure of scurvy in three weeks with oranges and lemons. He published his results in "A Treatise of the Scurvy," published in 1753, six years after the discovery. And in time,

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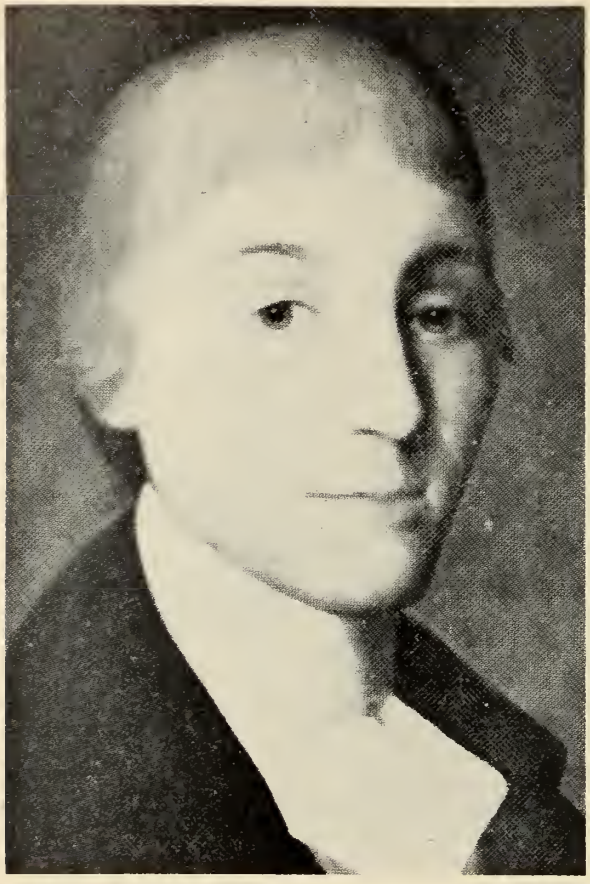

Fig. 3. Solomon Drowne, M.D., who after conspicuous service in the Continental Army was among the original faculty of the Brown University Medical School founded in 1811.

specifically 40 years later, it became the order of the British Navy in 1795 — the origin of the British limey.

A most devastating epidemic disease of the eighteenth century was yellow fever which invaded the colonies at frequent intervals. The greatest colonial epidemic of yellow fever occurred in Philadelphia in 1793. There Benjamin Rush, graduate of Edinburgh and the foremost physician of his age, undertook the therapy of yellow fever with classical authoritarianism. In his own words: "As soon as you are affected with a pain in the head, or back, sickness at stomach, chills or fever, more especially if these symptoms be accompanied by a redness or faint yellowness in the eyes, take one of the powders in a little sugar and water every six hours, until they produce four or five large evacuations from the bowels . . . . After the bowels are thoroughly cleansed, if the pulse be full or tense, eight or ten ounces of blood should be taken from the arm, and more if the tension of the pulse should continue." Here Doctor Rush describes the traditional Galenical approach to medical treatment dependent on the authority of the physician and quite lacking in scientific support — the characteristic response of physicians until the days of Laennec, Virchow, and Pasteur.

The War of Independence in Rhode Island began early. A conspicuous disturbance involved the British ship **H.M.S. Gaspee** under command of Lieutenant Dudingston which on June 9, 1772, was chasing a smuggler, **The Hannah,** up Narragansett Bay. The **Gaspee** ran aground on Namquit Point in Warwick. That night a group of men from Providence under John Brown and Captain Abraham Whipple rowed out to the **Gaspee,** captured the ship and crew, and burned the ship to the waterline. This overt act was widely published and led to the rapid formation of Committees of Correspondence in the colonies in touch with the first such committee in Boston initiated by Sam Adams. Rhode Island as an ocean state was much involved in smuggling before the Revolution, then converted to privateering during the War, when the government awarded all manner of small fast sailing ships Letters of Marque and Reprisal, which allowed capture of enemy shipping and diversion of cargo and vessel to private owners. In 1775-1776 there were 16 of these privateers in Narragansett Bay. And during the War Congress issued altogether 1,150 Letters of Marque to avoid the charge of piracy to armed private vessels all up and down the coast.

In his book **Aesculapius Comes to the Colonies,** Doctor Maurice Gordon lists the names of 33 doctors in Rhode Island who were variously involved as supporters of the War of Independence. These were Jonathan Arnold, James Ballasseure, John Bartlett, Nicholas Bogart, Isaack Bowen, William Bradford, John Chase, Elias Cornelius, Solomon Drowne, Jonathan Easton, Caleb Fiske, Gorton Jerauld, Joseph Joslyn, John Martin, Reuben Mason, Samuel Montgomery, Stephan Munro, Jacques Pallifer, John Parish, Joshua Perry, Jachues Pulliser, Joseph Rhodes, Ebenezer Richmond, Edward Sands, Isaac Senter, Peter Turner, James Walcott,

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Editorial

BICENTENNIAL

This special Bicentennial issue of the **Journal** is devoted to the subject Rhode Island Medicine in the American Revolution. The Trustees of the Fiske Fund had selected this appropriate subject for the 1976 essay.

Doctor Caleb Fiske, who established the Fiske Fund, was born in Scituate, Rhode Island on March 11, 1753. A direct descendant of Roger Williams, he studied medicine in Providence with the prominent Doctor William Bowen and himself served under General John Sullivan in the Battle of Rhode Island.

He was a founding member of the Rhode Island Medical Society in 1812. He was commissioned Surgeon in the militia, and later Captain of the Scituate Militia. Besides carrying on a successful practice there and attracting a large number of students, he was elected Judge of the Court of Common Pleas. In 1821 he received an M.D. degree from Brown University. In 1824 he donated his library to the Rhode Island Medical Society and upon his death in 1834 in his eighty-second year he bequeathed to the Society a fund for an annual essay on a medical subject.

This year three essays were submitted on the assigned topic. The Trustees awarded the first prize to Doctor Charles E. Millard. As is our custom, we are publishing the winning essay, this year in this special issue. The Trustees have seen fit to bestow honorable mention awards to the two runners-up. While there are many similarities in the three papers, we believe that our readers will be interested in comparing them for similarities and differences. Further, each contains material not touched upon in the others.

We commend the authors for the large amount of work which their papers represent and congratulate them upon winning.

They are a fitting tribute to our beloved country and state in this Bicentennial season.

RHODE ISLAND MEDICINE IN THE REVOLUTION

(Continued from page 316)

Another important and decisive factor must have been the deep-seated patriotism which actuated these medical men. These patriotic physicians were daily exposed to virulent germs and much greater danger than members of the fighting forces to whom they ministered. Doctor James Tilton aptly described this when he wrote: "My brethren of the faculty will probably think it an important fact that more surgeons died in the American service than officers of the line; a strong evidence that infection is more dangerous than the weapons of war."[8]

The conviction of these physicians that their independence was worth any sacrifice, hardship, or suffering is best exemplified in the diary of Doctor Isaac Senter who was Benedict Arnold's medical officer in the incredibly difficult march into Canada. The trials and tribulations suffered by these noble Americans could only be endured by men who firmly believed in Patrick Henry's oft quoted phrase, "Give me Liberty or Give me Death."

The irrational penuriousness of Congress in all that related to the medical force effectively destroyed efforts at improving the esprit de corps. Despite the inadequate compensation of medical men, we have another Rhode Island doctor, Solomon Drowne, writing, "Our wages were raised some time ago (in consequence of a petition to Congress) to thirty dollars per month or a dollar a day. The pay would be no inducement to stay a moment in this shocking place, at the expense of health, that best of blessings. The air of the whole city (New York) seems infected. In almost every street there is a horrid smell — but **duty to my country** and another consideration, require that I should not quit my post at this juncture."[20] These are the men who typified the medical corps of the Revolutionary Army. This dedication in the medical corps, essentially the same as in the fighting forces, resulted in the defeat of our enemies in the face of odds that were seemingly insurmountable. From this honored base has evolved the finest armed forces medical corps in the world today.

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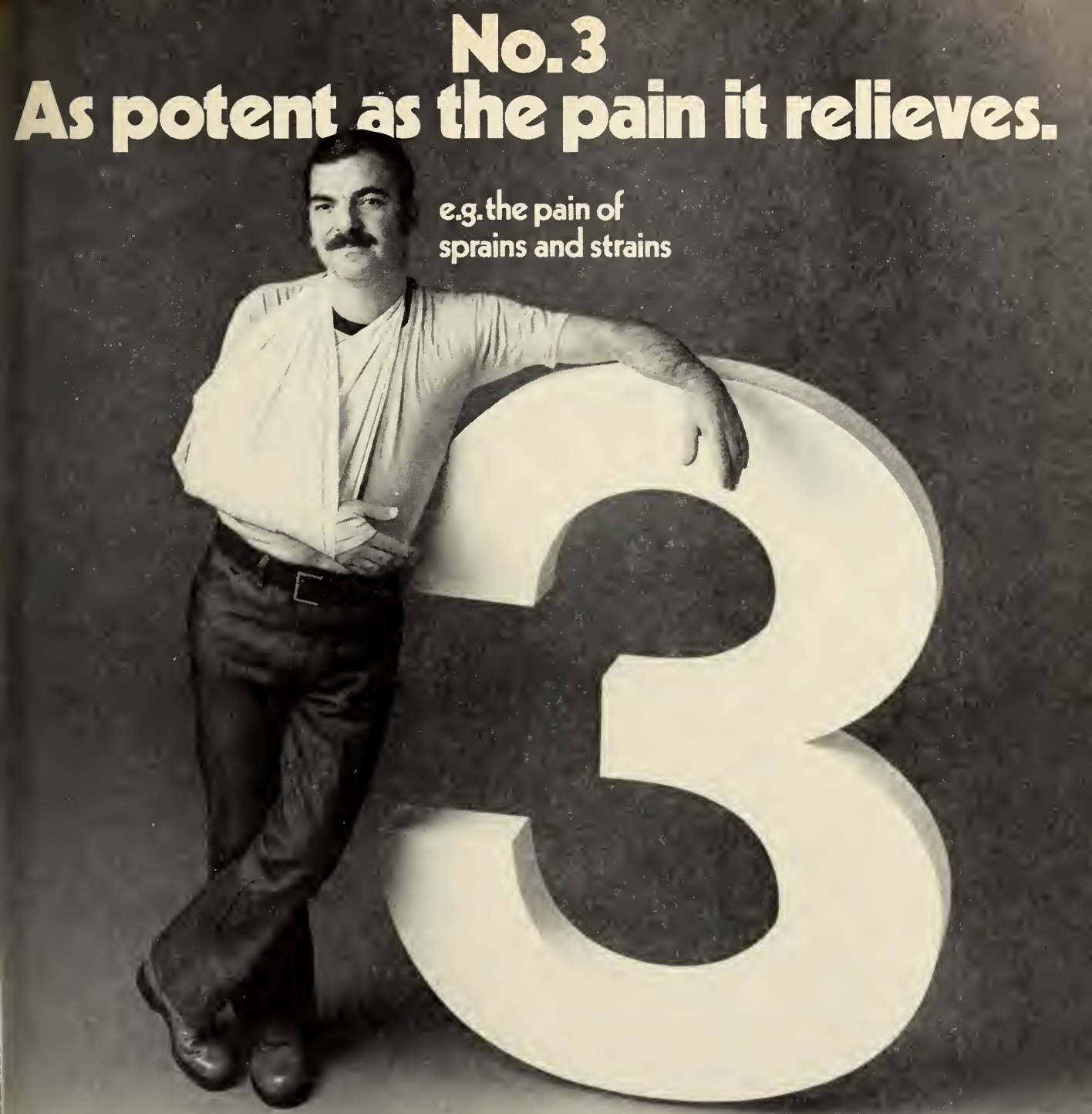

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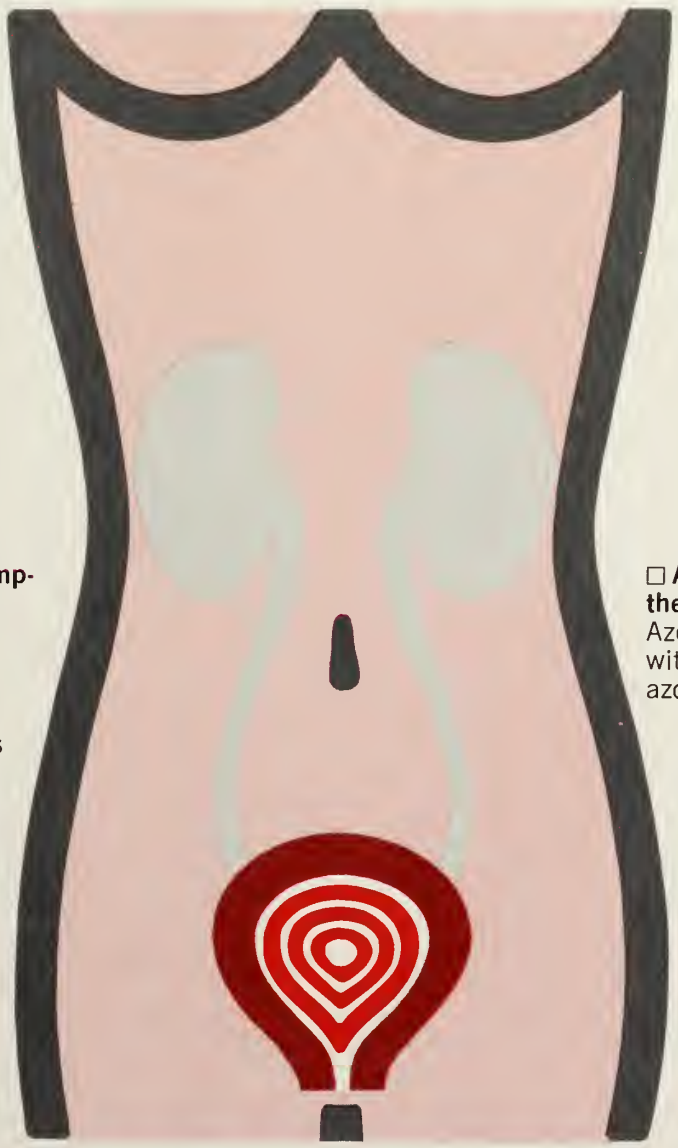

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* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

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Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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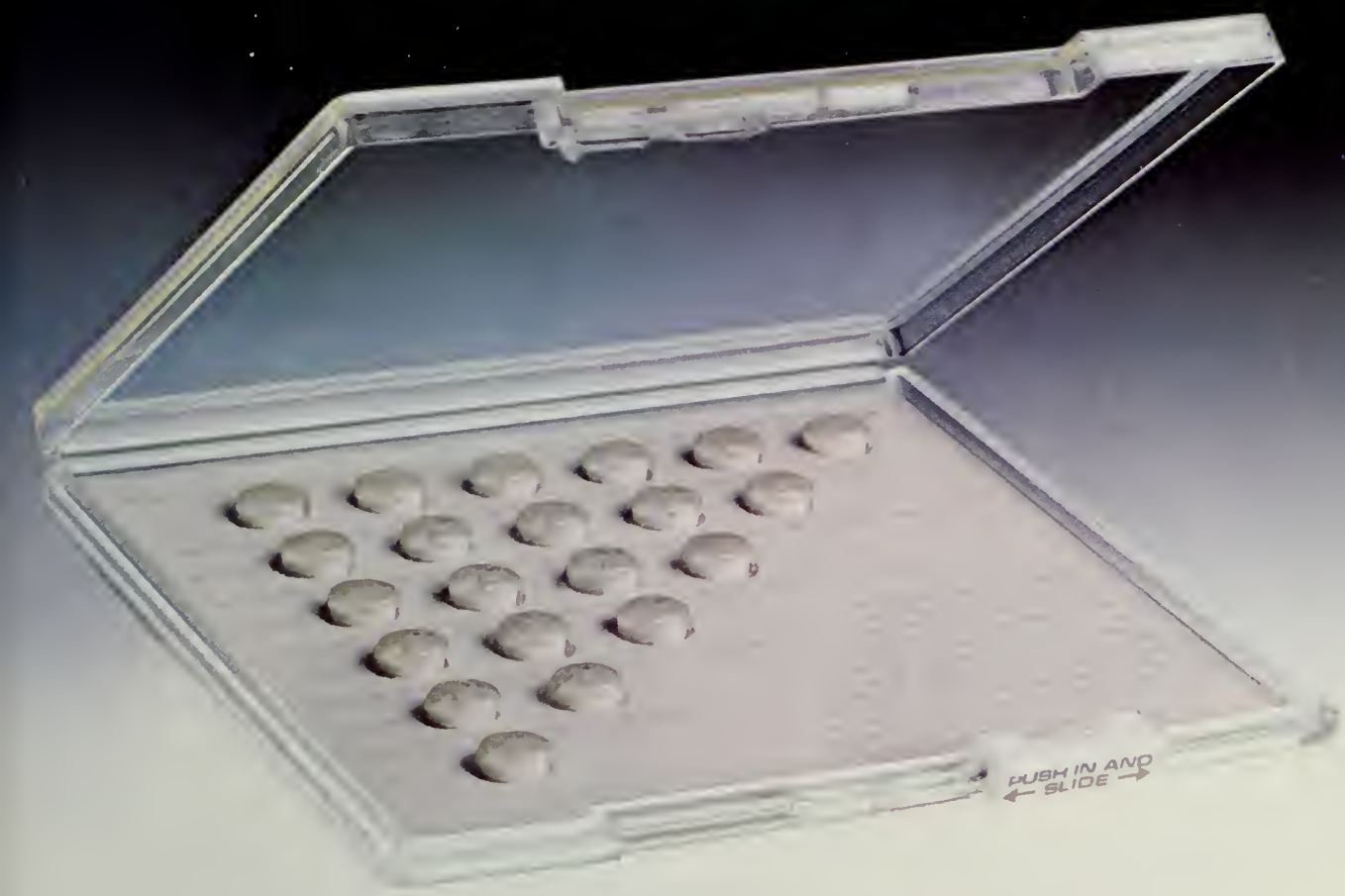

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*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

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Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

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APPENDICES

Available upon request from the Rhode Island Medical Society Library, 106 Francis Street, Providence, RI 02903. (331-3208).

A Return of the Staff of the General Hospital (October 12, 1779)
B Return of the Sick in His Majesty's Hospital, Rhode Island from 25th Dec. 1778 to 24th March 1779
C Return of Invalids, Newport (January 1778)
D-1 Embarkation Return of the Detachment of the Royal Artillery (1779)
D-2 Embarkation Return of the Eighth Battalion Companies of 22nd Regiment (1779)
D-3 State of the Regiments of Brandenboury (March 1779)
D-4 State of the British and Provincial Troops, under the Command of Major General Robert Pigot (May 15, 1778)
E-1 Return of Sick and Wounded in his Majesty's Hospitals at New York (February 15-19, 1780)
E-2 Return of Sick and Wounded in his Majesty's Hospitals at New York (February 20-26, 1780)
E-3 Return of Sick and Wounded in his Majesty's Hospitals (February 15-22, 1780)
1 A Weekly Return of Colonel Topham's Hospital (July 1, 1778)
2 A Weekly Return of the Sick in General Cornel's Hospital (October 28, 1778)
3 A Weekly Return of the Sick in General Cornel's Hospital Tiverton (March 10, 1779)
4 Steward's Daily Supplies for each Diet for the Sick in Hospital
5 Return of Articles Wanting in the Brigade Hospital of General Stark (November 27, 1778)
6 Articles Wanted in the Apothecary's Department (September 5, 1778)
7 Return of Patients in General Hospital (January 22-29, 1778)
8 Return of Patients in General Hospital (February 26 to March 5, 1778)
9 Return of Patients in General Hospital (May 7-14, 1778)
10 Providence General Hospital April 1, 1779, Medicines delivered out
11 List of Medicines Wanted for the use of Col. St. Jackson's Detachment (September 10, 1778)
12 A Return of Officers and Nurses in General Hospital at Providence (April 23, 1779)
13 Abstract of Monies to Nurses in Hospital from Jan. 1 to Nov. 1, 1778
14 Abstract of Monies to Nurses after Nov. 1, 1778
15 Act of General Assembly permitting inoculation against smallpox in Rhode Island (May 2, 1778)
16 Letter to the Governor of Rhode Island from General Washington furnished by Doctor Craik
17 Letter to the Governor of Rhode Island from General Heath urging the use of the college building (Brown) as a hospital

18 Legislative resolution concerning Hospitals for the French

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THE AIR OF RHODE ISLAND IS GOOD

(Continued from page 327)

these vessels were placed under the command of Commodore Abraham Whipple. Later that year the Congress, urged by the Rhode Island representation, fitted out several vessels, and the entire fleet was placed under the command of another distinguished member of the Colony, Esek Hopkins.

However, the need for supplies for the citizenry denied them by the British blockade prompted the General Assembly to legislate an act in March 1776 "for encouraging the fixing out, and authorizing armed vessels to defend the seacoast of America, and for erecting a court to try and condemn all vessels that shall be found infesting the same." This act opened the way for the operation of a great swarm of privateers which was to be such an important factor in the war, and condemnation and sale of their prizes did much to supply public needs.

As noted previously, Doctor Levi Wheaton served as a surgeon on one of these priva-

(Continued on next page)

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teers, and he was taken prisoner by the British. Doctor Solomon Drowne, after service with the land forces until 1780, served on a cruise that year in a private sloop-of-war named **Hope**. Doctor Pardon Bowen, a native of Providence, accepted appointment in 1779 as a surgeon on board a privateer which had been fitted out to prey on British commerce. The vessel was taken, and he was a prisoner of war in Halifax for several months. Exchanged, he returned home but soon embarked on other journeys of similar nature with the same experience of capture and imprisonment. In his final sortie victory resulted after a two hour battle. Undoubtedly the prize money made some amends for all his sufferings, for he was then able to further his medical education in Philadelphia and return to practice in Providence about 1784. Doctor Zuriel Waterman, in his journal now owned by the Rhode Island Historical Society, tells of his experiences on a privateer, but there is a dearth of reporting of medical services in the chronicle, other than sea sickness due to heavy gales and in one instance the stopping of a vessel loaded with tobacco but with no contraband goods, from whom "one of her hands came aboard to have his hand dressed which was smashed the day before."

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THE BRITISH LEAVE; THE FRENCH ARRIVE

On October 25, 1779 the British evacuated Newport, since the scene of military activity had shifted to the south. By then Newport was but a shadow of its former importance. More than 500 dwellings had been destroyed, commerce was ruined, merchants had moved elsewhere, and people had fled the area. But in July, 1780, the French fleet arrived with 6,000 men. Again Newport and the Colony became a great military camp, and the economic picture brightened for the local citizenry.

Commissary General Dominique-Louis Ethis deCorny, in behalf of the French government, applied to Brown College for the use of University Hall as a hospital for the French troops. As the mood of the day was to please the new allies, the request was granted. Use was also made of the so-called hospitals at Warren and Bristol, and at Newport. Apparently the more seriously ill went by boat to Providence, with the other installations being utilized for less serious cases.

In the Journal of Claude Blanchard, Commissary of the French Auxiliary Army sent to Newport, one reads some interesting comments regarding the health care of the French troops, as the following accounts for July 1780 reveal:

> "July 13, 1780. I was at Papisquash (sic) on the mainland, twenty leagues from Newport, to examine an establishment which M. deCorny had arranged for the sick.
>
> "July 18. I visited, in company with M. de Rochambeau, an Anabaptist temple where we established a hospital. (Protestant churches were then called temples by French.)
>
> "July 23. M. de Rochambeau came to hear Mass at the Hospital and to visit the sick; we had 400 of them at Newport and 280 at Papisquash; the detachment of the regiment of Bourbonnais, which had landed at Boston, also had 100 of them, so that we had about 800 sick out of a body of troops amounting to 5,000 men; for I speak only of the sick among the land forces. The Navy had its own hospital.

"September 8. We had about 500 sick, and among them a great number attacked by dysentery.

"September 12. I found our hospital in Providence in very good order. We then had 340 sick there, and we had a few more than 200 at Newport, which made the sick amount to a tenth part of the Army."

And a final comment on the good air of Rhode Island, for "It appears that the Germans feel the heat more and are more subject to the scurvy than the French. All these maladies began to manifest themselves when we were in the latitude of 27°. There is reason to believe we shall save many of them; the air of Rhode Island is good; it is hot there, but only in the middle of the day; for the mornings and evenings are cool without being damp."

* * *

The air was indeed good in Rhode Island, and the health of the first Colony to declare its independence from England strengthened as the entire citizenry looked ahead to peace and freedom to build this new nation after Cornwallis surrendered a year later, October 19, 1781, at Yorktown, and for all practical purposes the War of the Revolution was over.

ACKNOWLEDGEMENTS

The author expresses his thanks and appreciation for the generous assistance given him by the staffs of the Redwood Library, Newport; the Newport Historical Society; the Rhode Island Historical Society; the John Hay Library of Brown University; and to John Boyle of Boston for the loan of historical texts from his personal library.

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(Continued on next page)

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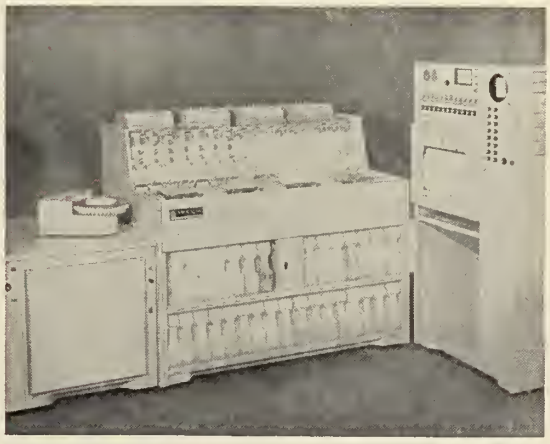

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AESCULAPIUS COMES TO THE COLONIES

(Continued from page 332)

Samuel Watson, Levi Wharton, Daniel Peck Whiple, Stephan Wigeron, John Wittredge, and John Young. Details of the activities of many of these men is not known.

Doctor Solomon Drowne was a conspicuous member of this group of Rhode Island doctors. He was born in Providence in 1753 and graduated from Brown in 1773. He secured medical degrees from the University of Pennsylvania and Dartmouth. He entered the Continental Army as a surgeon under Doctor John Morgan, who was the Director General of Hospitals prior to his dismissal by Congress. Later during the War, Drowne was with the Army of General John Sullivan when it crossed over from Tiverton to Rhode Island to join the French fleet in the capture of the British at Newport. This elegant plan was a fiasco in performance because General Sullivan started too early, and the French fleet got tied up in a severe two-day storm. Later Drowne became surgeon on the privateer **Hope.** Then, at the end of the War, he visited Europe where he was the guest of Benjamin Franklin and Thomas Jefferson. In 1801 he moved to the country in Rhode Island and lived in Foster where he cultivated a fine garden and became professor of materia medica and botany at the Brown University Medical School, founded in 1811. Brown had begun as the Rhode Island College in Warren in 1764, then moved to Providence in 1770 and became Brown University in response to a generous gift from the Browns — Moses, Nicholas, John, and Joseph.

The medical school was founded in 1811 with the faculty composed of Doctor William Bowen, Doctor William Ingalls, and Doctor Browne. It survived until 1827 after awarding 87 M.D.s to its graduates. Doctor Browne died in 1834 at Mount Hygeia, where he had lived for 33 years. If there were 33 patriot doctors in Rhode Island, there were also some Royalists, nicknamed Tories by the American patriots. Doctor Sylvester Gardner, born in South Kingstown in 1717, was 58 at the onset of the Revolution. He was a confirmed Loyalist and on that account fled to Nova Scotia at the outset of the War. His lands were confiscated by the patriots, but nonetheless he returned to Newport at the end of the War and resumed medical practice until his death in 1786. Doctor John Hunter, an M.D. graduate from Edinburgh, arrived in Newport in 1750, where he practiced for the next 24 years — the first male accoucher in the town and the first person to lecture on anatomy in the colonies. He was a member of the Church of England, and a vigorous supporter of the British Army in Newport. He died in January 1777. His wife and three lovely daughters then moved to Europe, never to return. Two other well-known Loyalists in Rhode Island were Doctor Thomas Moffatt and Doctor John Halliburton. Both were born in England and were well educated and prominent physicians in the town of Newport. Doctor Moffatt was the person who persuaded Gilbert Stuart's father to manufacture snuff in Rhode Island and later was the teacher of Doctor Isaac Senter, who served with Arnold at Quebec. In 1772 Doctor Moffatt's support of the Stamp Act enraged Newporter's who drove him from the country and destroyed his property. Doctor Halliburton arrived in Newport about 1750, was at one time teacher of Doctor Waterhouse, and was devoted to the British Navy, in which he had served. He was blackmailed during the War, fled to Long Island, and later to Halifax where he died in 1807.

The extent of Loyalist or Tory sentiment in the colonies has never been accurately defined. Samuel Eliot Morison in his book, **The Oxford History of the American People,** supports the view that 10 per cent of the people were active Loyalists, 40 per cent active patriots, and 50 per cent indifferent, neutral, or changeable.

The problem of one doctor and one patient began to yield to the growth of medical institutions toward the end of the eighteenth century, when hospitals, medical schools, and medical societies began to appear. First was the establishment of the Pennsylvania Hospital in Philadelphia, which opened in 1751. Then the Medical College of Philadelphia, the antecedent of the Medical School of the University of Pennsylvania, opened in 1765, and the first medical society, the New Jersey Medical Society, commenced in 1766.

In 1773 the foundation of the New York Hospital was started, but was destroyed by fire in 1775. It was rebuilt in 1776, when it became a barracks for American troops until the British captured the land and made the structure a barracks for Hessian troops. It finally achieved hospital status in June 1791. In 1768 Doctor Samuel Bard and five others became the faculty of the King's College Medical School, which after the War became Columbia in 1792. Meanwhile, the Harvard Medical School was founded in 1782 with Benjamin Waterhouse of Newport the first professor of theory and practice of physic. In Rhode Island, the year after the founding of the Brown Medical School in 1811, the Rhode Island Medical Society with 46 physicians was formed on April 22, 1812.

The development of this variety of institutions in the country served to provide a more effective medicine to the country by improving the education of the doctors, bringing them together more effectively, and aiding their patients with facilities other than home care. The medical schools, medical societies, and hospitals were necessary steps to precede the great scientific developments of the nineteenth century, which affectively discredited the ancient doctrine of Galenicism. The Revolutionary War in America and in Rhode Island among other results facilitated the growth of American medicine which still continues.

(Continued on next page)

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* * *

On April 28, 1976 MARY D. LEKAS was elected to serve a three-year term on the Executive Committee of the New England Otolaryngological Society.

* * *

JOHN TURNER, II, was recently elected as Chairman of District I of the American College of Obstetricians and Gynecologists.

* * *

PIERRE M. GALLETTI has received a one year $99,418 grant from N.I.H. for "Synthesis of Artificial Lung and Kidney Systems."

* * *

MATIG R. MAVISSAKALIAN will assume his duties as the new Chief of the Out-Patient Program at Butler Hospital in July. Prior to his appointment, Doctor Mavissakalian was in private practice in Lebanon for two years and served as an Assistant Professor of Psychiatry at the University of Mississippi Medical Center for a year.

⚓ ⚓ ⚓

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. . . extracted from Letters in **JAMA.**

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

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in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

AUGUST, 1976 VOLUME 59, No. 8

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CONTINUING MEDICAL EDUCATION CALENDAR

SEPTEMBER

10 Friday — "RECENT ADVANCES IN PEDIATRICS" (Combined Pediatric Teaching Rounds), Sidney S. Gellis, M.D., Professor and Chairman, Department of Pediatrics, Tufts University School of Medicine. 10:30 A.M., Kay Auditorium, Roger Williams General Hospital.

15 Wednesday — "RECENT ADVANCES IN PEDIATRICS,"* meeting of the New England Pediatric Society with sessions on "History of Rhode Island Pediatrics," Wilson Utter, M.D.; "Newer Advances in the Prevention and Management of Hyaline Membrane Disease," William Oh, M.D.; "Recent Advances in Surgical Problems of the Newborn," Frank DeLuca, M.D. and Conrad Wesselhoeft, M.D.; "New Bacterial Vaccines and Approaches to Immunization," Georges Peter, M.D. Also "Advances in the Diagnosis and Management of Phenylketonuria," Siegfried Pueschel, M.D.; "Current Concepts in the Treatment of Diabetes in Childhood," Robert Schwartz, M.D.; "Management of the Leukemic Child," Edwin Forman, M.D. Dinner speaker will be Leo Stern, M.D., on "The Evaluation of the Efficacy of Perinatal Care." All speakers are Brown University Faculty Members.
10:30 A.M.-9:00 P.M., The Sheraton Islander, Newport, RI. For information, Contact Doctor Leo Stern, Rhode Island Hospital.

27 Monday — "WORKSHOP ON PEER REVIEW,"** meeting of the Rhode Island District Branch, American Psychiatric Association. This program will serve as a brief introduction to the history and purpose of peer review; workshops will review sample cases and will be followed by questions and discussion. Sopkin Auditorium, The Miriam Hospital, 8:00 P.M. For information, contact Doctor Robert Fowler, The Miriam Hospital.

*Approved by the Brown University Office of Continuing Medical Education for 6 Category I credits toward the AMA Physician Recognition Award.

**Application has been made to the Brown University Office of Continuing Medical Education for Category I credits toward the AMA Physician Recognition Award.

President's Page

GENERIC DRUG LAW

By Herbert F. Hager, M.D.

"Any person, firm, or corporation who or which shall violate any of the provisions of sections 5-37-18 or 5-37-18-1 shall be fined not more than one hundred dollars ($100) for each violation." So reads the penalty clause of the so-called "generic drug law" designed to require physicians to authorize less expensive generic substitutions for drugs by brand name. The law also creates a "formulary commission" of 11 members within the Department of Health. The act took effect July 1, 1976. The formulary commission shall consist of two specified directors, one senate chairman, one house chairman, and seven appointees selected by the Governor from lists furnished to him by the Rhode Island Pharmaceutical Society and the Rhode Island Hospital Association. He is to choose one pharmacologist and four pharmacists. He is required to appoint two senior citizens from a list submitted by the Speaker of the House of Representatives.

The commission shall propose a formulary of less expensive generic or chemical and brand names of drugs and pharmaceuticals considered by the commission to be therapeutically equivalent and interchangeable with specific brand name drugs and pharmaceuticals. The first list shall be established by January 10, 1977 and shall be revised every three months. All pharmacists of Rhode Island are required to commence accepting prescriptions provided for in this act not later than March 10, 1977.

There is no provision for any physician to be on the formulary commission or for the Rhode Island Medical Society to provide advice, expertise, or criticism in the implementation of this law.

To be in compliance with the law every licensed Rhode Island physician when prescribing any drug by brand name shall in each such prescription, oral or written, authorize a less expensive generic equivalent substitute by signing on the line "substiution allowed," provided however that, if in the professional judgment of the prescribing physician the active ingredient or ingredients may vary in the therapeutic effect upon the drug recipient, the physician shall sign on the line marked "dispense as written" on the prescription form.

There is no provision for either the patient or the doctor to be informed that a substitution has been made. Nor is there any requirement that the pharmacist pass on to the patient any saving accomplished by any such substitutions. There is by this act granted the legal right for the pharmacist to increase his profitability by decreasing his costs but not necessarily decreasing his selling price.

Before any physician permits such substitution, he should be guaranteed that his patient will receive a medicinal product that meets the following criteria. The substituted drug should in actuality be equivalent not only in the active ingredients, but in the

(Continued on next page)

other less active components such as are in the capsule, coating, vehicle, mordant, coloring, additives, and preservatives. Allergens such as the yellow and red dyes must be identified. Coatings, capsules, and compressed tablets must become soluble, so that the active ingredients are actually released and not simply ingested and excreted intact. Undesirable trace chemicals, allergens, and contaminants harmful to the sensitized patient should be eliminated.

In short the substituted product in total should have bioavailability, bioequivalence, true generic equivalence, and not merely profitability to the dispenser before your signature permits replacement of the product you choose as the best treatment for your patient.

FIGHT FLU PROGRAM

To assist in the implementation of the first phase of FFP, the bivalent immunization of the elderly and the chronically ill, a Central Advisory Committee of active sponsors of this phase has been formed. Members include representatives of the Hospital Association of Rhode Island, Rhode Island Health Center Association, Association of Home Health Agencies of Rhode Island, Rhode Island Department of Mental Health Retardation and Hospitals, Rhode Island Department of Social Rehabilitative Services, Rhode Island Lung Association, Rhode Island Association of Facilities for the Aged, Rhode Island Division on Aging, Rhode Island Group Health Association, Rhode Island Department of Community Affairs, Cranston Community Action Program, and the Rhode Island Nursing Home Association. The Rhode Island Medical Society will provide liaison with the Central Advisory Committee.

The rough outline of the strategy that will be used for phase one has been formulated. Over 100 immunization clinics sponsored by the Central Advisory Committee with support from the Rhode Island Department of Health will be established during a one week period in September. Volunteer professional and nonprofessional help in the management of these clinics would be welcomed. Those wishing to assist may contact the Epidemiology Office (277-2362) or any member of the advisory committee.

For phase two of the FFP, the monovalent immunization of the 18 to 60 year old general population, several routes for vaccine distribution are being developed. The vaccine will be distributed in bulk to those physicians responsible for large populations (such as industry, hospital personnel, and colleges). Also a public immunization program will be conducted on a single day in October throughout the state. It is anticipated that clinics will be organized by a variety of community organizations with support and coordination from the Department of Health. One group that has already agreed to sponsor such clinics is the Jay-cettes. Other groups capable of sponsoring more than one clinic would be welcome.

Both the bivalent and monovalent influenza vaccines will be made available to private physicians according to their needs. We anticipate that a large portion of the population will request and receive the vaccine from their private physician. Voluntary physician and nurse participation in the mass immunization clinics would also be welcomed.

Details, appropriate order forms, and specifics for the FFP will be released by the Department of Health as they become available.

Extracted from the **Communicable Disease Newsletter**, Vol. 13, No. 28, July 16, 1976, published by the Division of Epidemiology, Rhode Island Department of Health.

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Book Review

HANDBOOK OF PSYCHIATRY 3rd Edition edited by Philip Solomon, M.D. and Vernon D. Patch, M.D. Los Altos, California, Lange Medical Publications, 1974. $8.00

How come this patient presents himself as he does? The answer to this makes a psychiatrist need to become a renaissance man and have awareness of the many factors that compose and influence the person and personality: genetic, intrapersonal, physical, interpersonal, family, race, culture, socio-economic religious, and geographic. As Pinel once said, "But one's difficulties do appear increased as soon as one embarks upon a medicopsychological career, because it becomes necessary to acquire such a variety and such a great amount of additional knowledge."

Since the review of the first two editions (1969 and 1971) of this Handbook by this reviewer in this **Journal** in October 1972, three chapters have been added: Psychotherapy (Chapter 23: what to ask, how to ask, what to expect, and how to go beyond the first and second responses); Psychosurgery (Chapter 28); and Transcultural Psychiatry (Chapter 40).

The simple sensible organization of the Second Edition has been continued. Some standing chapters have been reorganized as well as rewritten (e.g. Psychotherapy and Special Psychotherapies), facts have been updated, and over five hundred new references have been added. There is even a discussion of acupuncture (under ECT and Other Somatic Therapies). The Summary of the Treatment of Acute Poisioning has been moved to the end of the book, where it appropriately accompanies the Psychiatric Emergency Routine. There is no overall bibliography, but a Libliography and references for further reading accompany each chapter.

The developments updated since the last edition are: 1. information on biologic psychiatry and the role of biogenic amines in schizophrenia and manic-depressive psychosis, and 2. evidence of the scientific validity of psychotherapy.

A Spanish translation of the handbook is already in circulation. Italian and Portuguese translations are in preparation. An English edition is published in Tokyo for distribution in the Orient. (I am curious as to whether culture-bound changes had to be made in the phrasing of specific interview questions and in the understanding of the responses — and what they were.)

The Handbook continues to be an excellent compendium and integration to date of psychiatric functioning, know-how, and doubts. It continues to be a spirited painstaking labor of love by the editors and the other contributors. It continues to fill a need in the face of information overload and conflicting biases in an ever-changing field and concerning an ever-changing object, namely, the human being and his emotional difficulties.

Joseph M. Zucker, M.D.

Books Received For Review

The Editor acknowledges the receipt of the following books and thanks the publishers for sending them. We shall have as many as possible reviewed. The volumes are greatly appreciated and will be added to the Library's collection where they will be available to readers.

PRINCIPLES OF CLINICAL ELECTROCARDIOGRAPHY 9th Edition by Mervin J. Goldman, M.D. Los Altos, California, Lange Medical Publications, 1976. $9.50

FREEDOM TO DIE, Moral and Legal Aspects of Euthanasia by O. Ruth Russell. New York, Dell Publishing Co., Inc., 1975. $1.95.

CURRENT PEDIATRIC DIAGNOSIS AND TREATMENT 4th Edition by C. Henry Kempe, M.D.; Henry K. Silver, M.D.; Don-

(Continued on Page 379)

Peripatetics

Recently seen at the AMA Annual Assembly in Dallas were HERBERT F. HAGER, the late THOMAS F. HEAD, SEEBERT J. GOLDOWSKY, WILLIAM J. MacDONALD, and JOHN J. CUNNINGHAM. TIMOTHY B. NORBECK of the executive office was present as well. SEEBERT J. GOLDOWSKY also attended a Blue Shield briefing session and the annual meeting of the State Medical Journal Advertising Bureau, Inc. At that annual meeting Doctor Goldowsky was elected to the Board of SMJAB. He had formerly served as a member of the Advisory Board for several years.

* * *

WILMA S. F. ROSEN, Staff Psychiatrist, and ROBERT J. WESTLAKE, Director of Outpatient Services, both of Butler Hospital, were elected as Fellows in the American Psychiatric Association at the 1976 Annual Meeting in Miami. Other members of the Butler Hospital staff in attendance were EDWARD B. FINK, THOMAS SCARAMELLA, and WILLIAM SAMUELS.

* * *

WALTER COTTER and DAVID BARRY, members of St. Joseph's Medical Staff and both past presidents of the New England Neurosurgical Society, recently served as representatives for the Society in San Francisco for the Joint Social-Economics Committee of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons. Doctor Barry was recently appointed to the American College of Surgeons Advisory Council on Neurosurgery.

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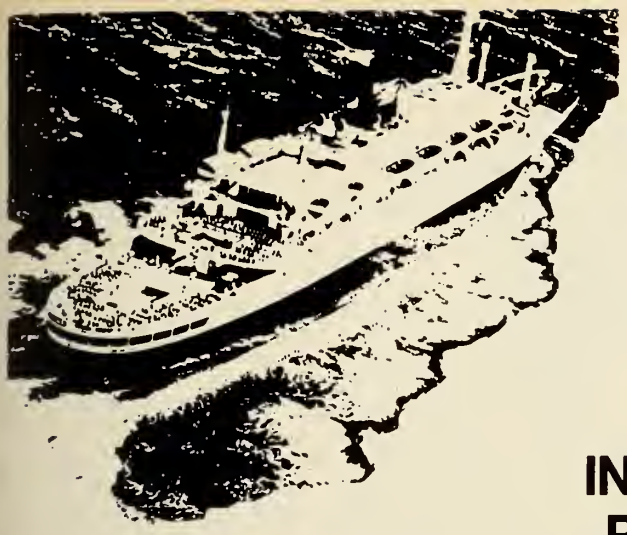

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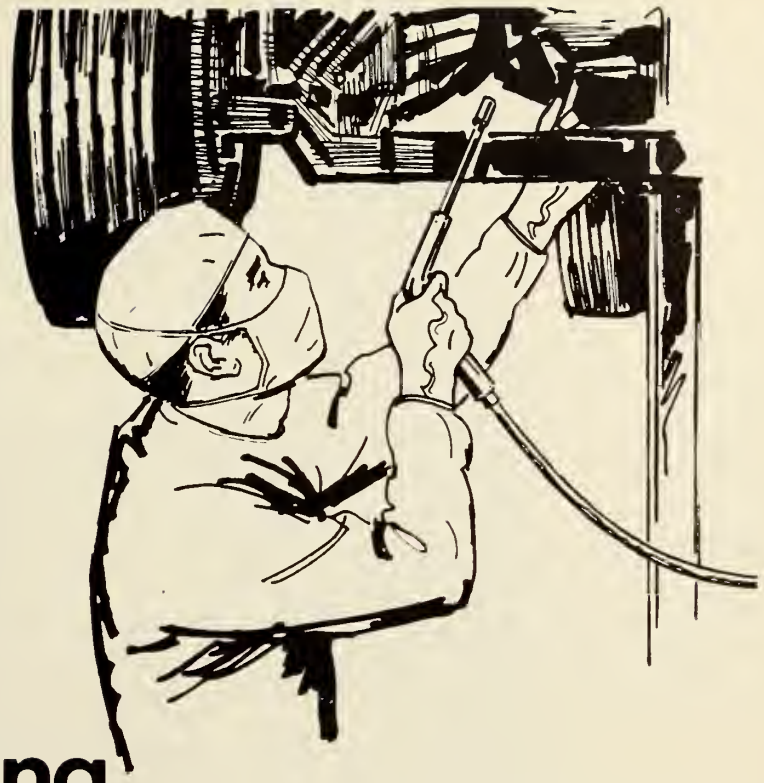

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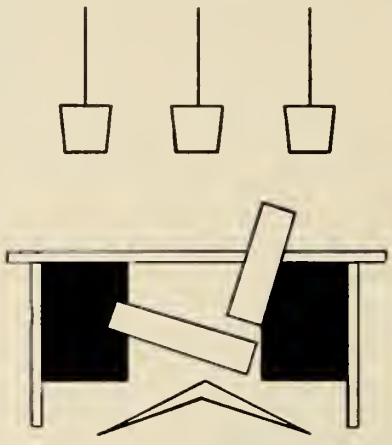

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Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing. **CONTRAINDICATIONS:** Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components. **WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended. **PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs. **ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

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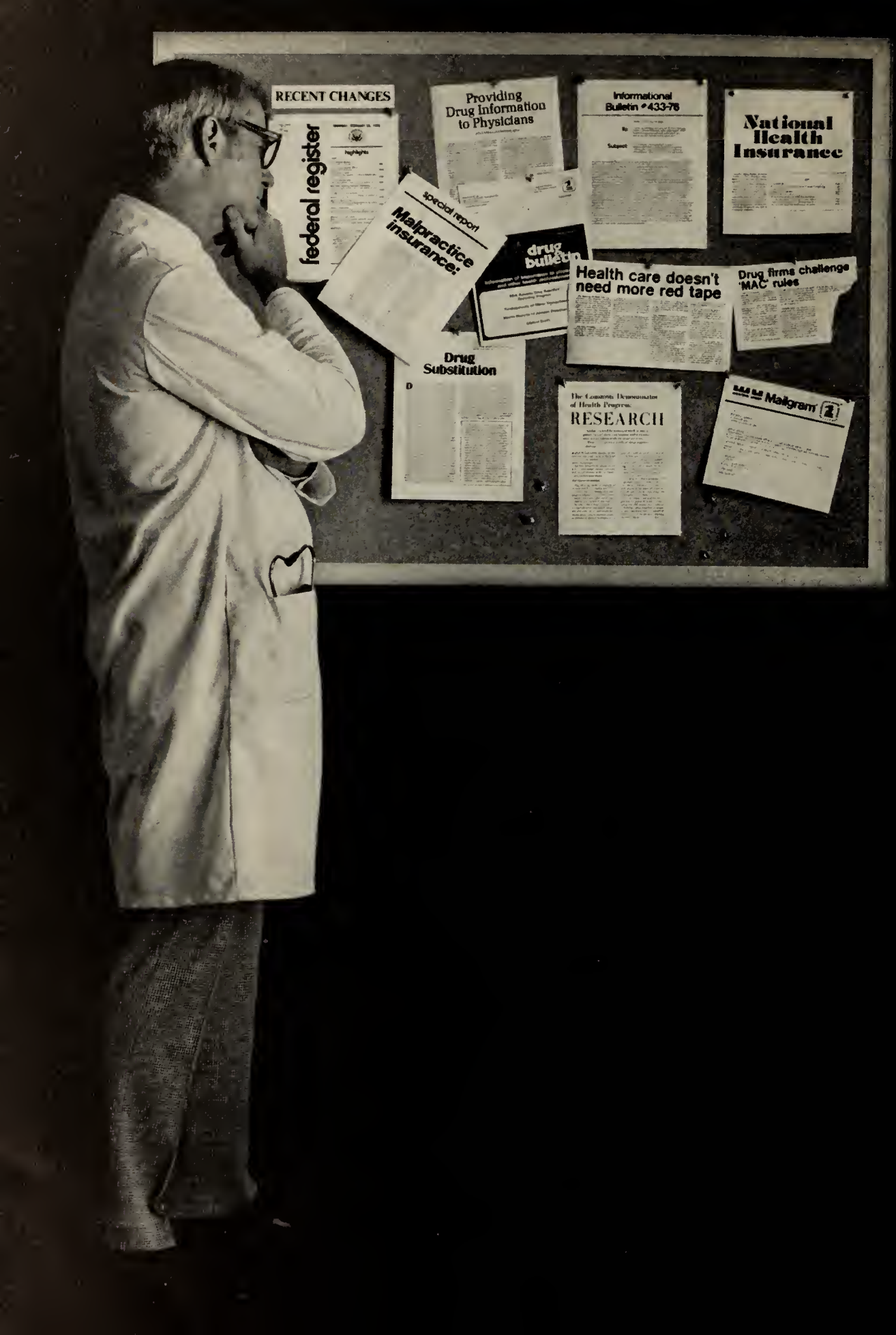
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Drug firms challenge 'MAC' rules
Drug Substitution
The Economic Dimensions of Health Progress
RESEARCH
Mailgram

THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

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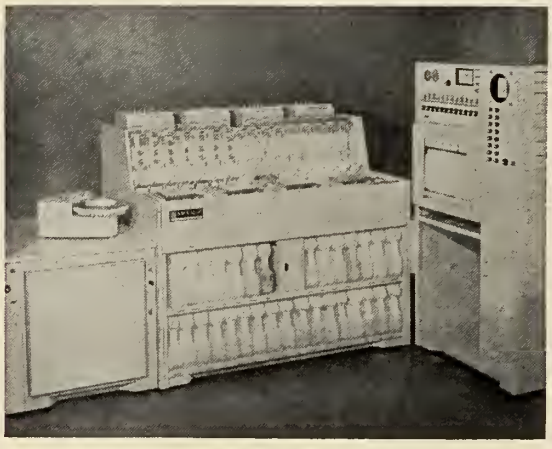

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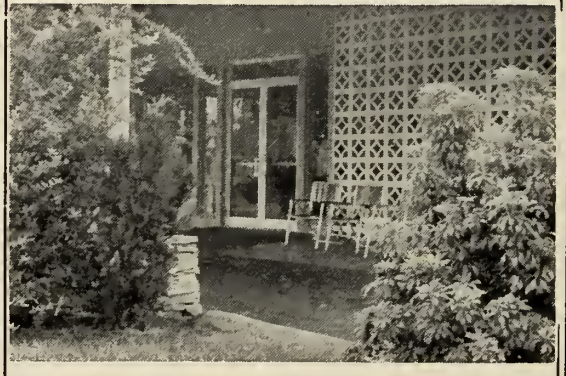

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WEDNESDAY, SEPTEMBER 15, 1976

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Starting time: 1 p.m.

KICKER'S HANDICAP–Valuable golf prizes (and also door prizes at the dinner). Plan your foursome (guests may participate) and indicate on reservation envelope names and your preferred starting time. MAIL BEFORE SEPTEMBER 8th.

Please indicate on the envelope whether you wish to reserve a cart ($10). **We must reserve them in advance and cancellations must be made by September 14.** Please **do not** include a check for the gasoline cart. They will cost $10 each as in the past but will be paid **directly** to the Pro Shop at the Rhode Island Country Club. Advise the executive office (331-3207, 331-3208) by September 14 if you find it necessary to cancel it.

Pull carts are allowed on the course but are not available at the Club. Most of the area schools will be open on September 15 so that there will be few caddies.

●

EALS: **Luncheon available at the Club. A cash box will be available at the 10th tee for those who wish to purchase hamburgers, soft drinks, etc.**

DINNER will be at 7:00 p.m. Dinner reservations must be made in advance. Use special envelope enclosed.

(Note: The Annual dinner is for members of the Association and customarily it has not been open for spouses of members.)

●

ELEPHONES: **RHODE ISLAND COUNTRY CLUB golf shop–245-7370**
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A Pathophysiologic Approach To Disorders Of Potassium Homeostasis

In Seeking The Causes Of A Potassium Disorder Mechanisms Producing The Abnormality Must Be Defined

By Richard Solomon, M.D.

Clinically significant electrolyte abnormalities are increasingly common as a result of the introduction of more potent medications and the advancements in supportive care for the severely ill patient. An appreciation of the pathophysiology of such electrolyte disturbance is necessary for the proper diagnosis and management of these disorders. Hypokalemia and hyperkalemia are common electrolyte derangements in which an understanding of the pathophysiology is necessary for proper diagnosis and management.

NORMAL PHYSIOLOGY

Potassium is an intracellular ion, only 2 per cent of total body potassium being located in extracellular fluid at a concentration of 3.5-5.5 mEq/L. The extracellular concentration of potassium is controlled by two interrelated processes. On the one hand the distribution of potassium between the intracellular and extracellular compartments is altered in response to acute changes in serum potassium, serum pH, or hormones (aldosterone and insulin). An **increase** in any of these factors will favor movement of potassium into the cells throughout the body and will be reflected in acute (though transient) decreases in serum potassium. At the same time, net losses or additions of potassium to the body are primarily regulated by dietary intake and the kidney's ability to alter renal excretion of potassium in response to a number of variables. States of **chronic** hypokalemia and hyperkalemia are almost always related to abnormalities of renal handling of potassium.[1]

Essentially all potassium that is filtered by the glomerulus is reabsorbed before the urine reaches the distal nephron. In the distal tubule and collecting tubules, potassium is added to the urine by passive diffusion out of the renal tubular cell down both a concentration and electrochemical gradient. A concentration gradient exists because of the high intracellular content of potassium relative to tubular urine. The electrochemical gradient exists because the distal tubular lumen is negative with respect to the renal tubular cell, thus providing an electrical sink favoring potassium movement (a positively charged ion) into the lumen. The concentration gradient is maintained and affected by those same processes which affect the distribution of potassium between intracellular and extracellular compartments. The electrical gradient is created by the presence of negative ions in the distal tubule lumen (chloride, phosphate,

(Continued on next page)

RICHARD SOLOMON, M.D., *Assistant Professor of Medicine, Brown University; Chief, Division of Nephrology, Roger Williams General Hospital and Veterans Administration Hospital, Providence.*

TABLE I
HYPOKALEMIA

MECHANISM

TRANSIENT

TRANSCELLULAR SHIFT
- acute alkalosis
- insulin administration

CHRONIC

GASTRO-INTESTINAL LOSS
- villous adenoma
- WDHA
- laxative abuse
- vomiting (pyloric obstruction and N/G tube drainage)

RENAL LOSS
- hypermineralocorticoidism
  - primary aldosteronism
  - secondary aldosteronism (liver disease, Bartters syndrome, malignant hypertension, JG cell tumors, salt losing nephritis)
  - licorice abuse
  - Cushing's syndrome and ectopic ACTH
  - 17-hydroxylase deficiency
- increase sodium delivery to distal nephron
  - diuretics
  - mannitol
- alkaline urine
  - acetazolamide
  - $NaHCO_3$ ingestion
  - renal tubular acidosis (proximal and distal RTA)
- increase in non-reabsorbable ion
  - carbenicillin, penicillin
  - sodium sulfate
  - lysozymuria (leukemia and RTA)
- primary tubular defect
  - pyelonephritis
  - gentamicin
  - post obstruction
  - familial
  - vitamin D intoxication
  - magnesium deficiency

sulfate, bicarbonate) which are left behind after sodium has been actively removed from the fluid. Processes that increase sodium delivery (reabsorption) to the distal nephron or increase the quantity of negative ions in the distal tubule will increase the electrical gradient and favor potassium excretion in the urine.[2]

After the ingestion of a potassium load, potassium is readily absorbed and serum potassium rises. This rise in serum potassium results in a movement of potassium into cells. In this way most of the acute potassium load is handled by intracellular deposition. The ability of the cell to store potassium is limited, however, and with continued potassium loads lethal hyperkalemia would result, unless potassium is eliminated from the body. The kidney responds by increasing potassium excretion into the urine. This results in part because potassium has also shifted into the renal tubular cells priming them for secretion and in part because hyperkalemia directly stimulates the adrenal secretion of aldosterone. Aldosterone in turn augments distal tubular potassium secretion by mechanisms which are not fully known. In this way acute as well as chronic potassium loads can be handled without producing sustained hyperkalemia. These two processes are also at work during states of potassium deficiency to correct the extracellular deficit by shifting potassium from the intracellular to the extracellular compartment and by decreasing potassium excretion in the urine.

HYPOKALEMIA

Hypokalemia is clinically symptomatic when serum levels fall below 2.5 mEq/L. Neuromuscular symptoms predominate with weakness, especially of the quadriceps, the most common complaint. Cranial nerves are almost never involved, and deep tendon reflexes are not impaired. Muscle cramps and paresthesia may accompany the weakness. Electrocardiographic abnormalities such as depression of ST segments, flattening or inversion of T waves, or both, and prominent "u"waves — usually precede the development of such arrhythmias as sinus bradycardia, Wenchebach atrio ventricular (AV) block, paroxysmal atrial tachycardia (PAT), and rarely ventricular fibrillation.[3]

Hypokalemia may be the result of a number of conditions (Table I). Acute hypokalemia may result from a shift in potassium from the extracellular to the intracellular compartment as a result of a sudden rise in serum pH or a carbohydrate load. However, this process will not account for states of chronic hypokalemia in which a net loss of potassium from the body has occurred. This may be secondary to an increase in either gastrointestinal or renal losses. In the case of gastrointestinal losses urinary potassium concentration will be appropriately low (<15 mEq/24h), whereas with renal losses, by definition, urinary potassium will be inappropriately high (>15 mEq/24h).

Renal losses in turn may be secondary to abnormalities of any of the normal physiologic factors favoring potassium excretion — hypermineralocorticoidism, increase delivery of sodium to distal nephron, and increase

alkalinity or concentration of poorly diffusable anions. Rarely, a defect in the ability of the kidneys appropriately to lower potassium excretion during hypokalemia has been found. Appropriate therapy will depend upon an accurate diagnosis of the underlying pathophysiology.

The evaluation of chronic hypokalemia therefore first involves determining the site of loss by means of a spot or preferably 24 hour urine collection. If renal losses of potassium are suspected, further evaluation on a metabolic ward equipped for measurements of plasma renin and aldosterone levels during controlled dietary restrictions is indicated.

Therapy of hypokalemia is tailored to the underlying pathophysiology. Hypokalemia may respond to discontinuation of diuretics, supplementation of potassium to the diet, use of potassium retaining medications, or removal of autonomously functioning adrenal tissue.

HYPERKALEMIA

Hyperkalemia is associated with malaise and muscle weakness, but the effect which overshadows all others in terms of clinical importance is that on the conduction system of the heart. Electrocardiographic changes consisting of peaking of the T waves predominate until serum potassium exceeds 7 mEq/L. Gradual prolongation of the QRS complex then occurs, resulting in a sine wave appearance and eventuating in cardiac standstill.

Hyperkalemia may result from diverse etiologies (Table II). Hyperkalemia, unlike hypokalemia, may result from "test tube" artifacts. Lysis of white cells, or platelets, or both may occur in the test tube, releasing potassium and elevating the apparent serum levels. Such artifacts occur only when white cells and platelets are present in excessive quantities (>100,000 and >1,000,000 respectively). Since platelets disrupt during the formation of the clot releasing potassium, potassium concentration in heparinized blood (plasma potassium) will be normal.

As in the case of hypokalemia, acute hyperkalemia may result from transcellular shifts. These shifts are often life threatening because of their suddenness and because only small quantities need to be redistributed to produce lethal hyperkalemia. However, as long as renal function is intact, these are self-limited. Chronic hyperkalemia, on the other hand results from persistently high potassium loads or an inability of the kidney to excrete potassium. This may result from oliguria (<400 ml/d) or from an insufficient mineralocorticoid effect. Because all filtered potassium is normally reabsorbed, decreases in glomerular filtration rate in the absence of oliguria do not produce hyperkalemia. Measurements of both the kidney's ability to generate renin and the adrenal's ability to synthesize cortisol and aldosterone will determine whether such mineralocorticoid deficiency is a primary adrenal or renal disease.

Treatment of hyperkalemia is directed first at lowering serum potassium and then correcting the underlying defect. Acute EKG changes can be immediately controlled with intravenous calcium (either chloride or gluconate), one or more ampules being administered while the EKG is being monitored. Acute lowering of serum potassium can be accomplished with sodium bicarbonate, or glucose and insulin, or both. However, these

(Continued on page 380)

TABLE II
HYPERKALEMIA
MECHANISM

ARTIFACTUAL
hemolysis in tube
prolonged venoconstriction
marked leukocytosis and thrombocytosis
TRANSIENT
TRANSCELLULAR SHIFT
acute acidosis
hypertonic solution (mannitol)
suxamethonium
acute hemolysis (transfusion reaction)
muscle damage
fresh water drowning
CHRONIC
INCREASE LOAD
KCl (oral or infusion, salt substitutes, acute GI bleedng)
IMPAIRED RENAL EXCRETION
oliguria (acute renal insufficiency)
hypoaldosteronism
Addison's disease
primary hypoaldosteronism (enzyme defect)
secondary hypoaldosteronism (impaired renin secretion)
aldosterone antagonists
spironolactone
progesterone
heparin
potassium retaining diuretics (triamterene, amiloride)
primary tubular defect (familial, SLE)

Suicide Perspectives In Rhode Island In 1974

Suggestions As To Mental Tranquility In Rhode Island Are Seemingly Unsubstantiated And Perhaps Misleading

By William Q. Sturner, M.D. and John Sisti, Jr., B.A.

In the year 1974 people were faced with a faltering economy in addition to their personal problems. They were truly thrust into an "age of anxiety," which can predispose to self-destruction. Suicide now emerges as a major leader in fatalities, ranking as the 10th leading cause of death in Rhode Island, and having increased by 27 per cent over the 1973 rate per 100,000 population.[1] There are said to be some 20 attempts at self-destruction requiring medical attention for each successful suicide; one fourth of the victims in the present study made previous attempts prior to their terminal act. Challenges to physicians regarding prescription practices and diagnosing depressive states in an attempt to curb self-destruction have recently been offered.[2, 3]

A steady rise in the suicide rates is being observed annually. The number of cases classified as suicide in Rhode Island has increased from 68 in 1972, to 83 in 1973, and to 102 in 1974.[4] This may be attributed to the economic and social conditions of our time along with the under-reporting of suicides in the past. The latter phenomenon may have been partly due to the emotional and philosophic outlook of the reporting officials. Also, there had been a lack of generally accepted standards for determining a death by suicide. Now there is an orderly interpretation of evidence obtained at the scene, from the postmortem examination, from the toxicology laboratory, and from the social, medical, and psychiatric history of the victim. In any event recent suggestions as to the low incidence of self-destruction in this community may be equivocal, if not invalid.[5, 6] The present study examines several of the parameters of the suicide fatalities investigated by the Medical Examiner's Office during 1974.[7]

WILLIAM Q. STURNER, M.D., *Chief Medical Examiner, State of Rhode Island and Providence Plantations; Associate Professor, Section of Pathology; Director, Subsection of Forensic Medicine, Brown University.*

JOHN SISTI, JR., B.A., *Brown University*, 1976.

LOCATION

The incidence of suicide has been found to predominate in certain areas. Most previous studies indicate that urban areas have a somewhat higher rate than rural areas. A study of the cities and towns of Rhode Island shows an opposite trend. When the actual place of death is considered, a suicide rate of 10.4 per 100,000 was found for urban areas while a rate of 13.9 was present for rural areas.

People thus prefer or tend to commit their self-destructive acts in rural areas. Similarly, a higher suicide rate (12.1) was found for residents of rural areas as opposed to people living in urban communities (10.6). It should be pointed out that a high density of population in this state makes a clear differentiation between urban and rural communities rather difficult.

AGE AND SEX

Suicide is prevalent in all age groups, but suicide rates have been found to be elevated for people of certain ages. The present survey shows three peaks that are particularly high, those being age ranges 30-39, 50-54, and 65-74. Spelman found, on the other hand, in his study of Philadelphia deaths between 1961 and 1965 that the incidence of suicide rises with age in an almost linear relationship.[8] There were five teenage suicides in our series, and suggestions have been made that self-destruction in young people is continuing to increase.[9] Our study shows that almost twice as many males commit suicide as females, with the rate of suicide for males 14.3 as compared to only 7.5 for females.

HISTORY

Most of these individuals have experienced some form of depression prior to their terminal act, including psychotic episodes. Likewise, they may have been treated for this depression in the past, including hospitalization. Among 102 suicide cases in Rhode Island, 21.6 per cent of the victims had psychiatric institutional care one or more times.

ALCOHOL

Ethyl alcohol was detected in a significant number of suicide victims; of the 86 victims tested, alcohol was detected in 39, or 45.3 per cent. Alcohol as well as drugs was used predominantly by the young and middle-aged rather than the elderly. Less than 50 per cent of those 60 years of age and older were found to have positive alcohol and drug tests, whereas nearly 70 per cent of younger persons tested positive. This finding does not necessarily imply that the young and middle-aged people resort to alcohol for their courage, but it may serve to merely alter the balance between self-preserving and self-destructing forces within the individual of any age. Alcohol may trigger the final act but is not necessarily the underlying cause. In many cases the act of suicide appears to be the culmination of an illness rather than impulse.[8]

TABLE I
SUICIDE AND EMPLOYMENT

	Males	Females	Total
Employed	27	9	36
Unemployed	26*	22**	48
Unknown	13	5	18
Total	66	36	102

*Includes Retired Men
**Includes Housewives and Retired Women

EMPLOYMENT

Forty-eight of the 102 victims were unemployed, retired, or both (see Table I). Among the male suicide victims whose employment status was known, 39.4 per cent were unemployed, retired, or both, whereas 40.9 per cent were employed. However, 61.1 per cent of known status females were unemployed, retired, or both (including housewives), while 25 per cent were employed. About half of the unemployed females were of child-bearing age. Twenty-three per cent of the unemployed females were between the ages of 50 and 54, and 27.2 per cent were 65 years of age and above. Thirty-eight per cent of the unemployed male victims were 65 years old or above, while 15.4 per cent were between 30 and 34 years of age. However, three males and three females in the 20-24 age group were unemployed at the time of their final act. These data indicate that a high percentage of the unemployed males and females were elderly and most likely retired.

SUICIDE NOTES

The presence of a suicide note at the scene of death is almost conclusive (but not incontrovertible) evidence that a suicide has occurred. The notes may be difficult to find, as family and friends may conceal or even destroy them. Suicide notes were present in 22.5 per cent of the cases; 39 per cent of the female victims left notes, with only a mere 13.6 per cent of the males leaving notes. The suicide notes seem to show various patterns, with some writings expressing hostility toward certain people, while others display unusual warmth. A few of the notes indicate how the writer expected to enjoy revenge from his act. The notes were written both rationally and irrationally. In one case not

(Continued on next page)

TABLE II

SUICIDE BY METHOD AND SEX OF VICTIM

Method	No. of Males	No. of Females	Total	Per Cent of Males	Per Cent of Females	Per Cent Total
Firearms	25	5	30	37.8	13.9	29.4
Drug Ingestion	6	10	16	9.1	27.8	15.7
Hanging	12	4	16	18.2	11.1	15.7
Carbon Monoxide	8	8	16	12.1	22.1	15.7
Poison	7	0	7	10.6	0	6.9
Drowning	3	2	5	4.5	5.6	4.9
Jumping	2	2	4	3.0	5.6	3.9
Conflagration	1	1	2	1.5	2.8	2.0
Alcohol Intoxication	1	1	2	1.5	2.8	2.0
Suffocation	0	1	1	0	2.8	1.0
Alcohol and Barbiturate	1	2	3	1.5	5.6	2.9

only was the note incoherent, but the handwriting was distorted to the point of illegibility; however, the deceased was not under the influence of alcohol or drugs.

METHOD

The method of suicide is usually obvious at the scene, but the object used is occasionally withheld from officials by the family. Despite precautions taken to conceal the evidence, a careful postmortem examination following an in-depth scene investigation will usually reveal the method employed. The use of firearms was the most frequent method used by suicide victims in Rhode Island (see Table II). Hanging, ingestion of drugs, and carbon monoxide poisoning each accounted for 15.7 per cent of the deaths by suicide. Together, these four methods were used by 76.5 per cent of the individuals.

Males tended toward the use of methods more traumatic than those used by females. Firearms and hanging accounted for 56 per cent of the male suicides, while 50 per cent of the females died from drugs or carbon monoxide poisoning. Firearms were used most often by males (37.8 per cent), while ingestion of drugs was the most frequent method used by females (27.8 per cent). Firearms, drugs, hanging, and carbon monoxide poisoning were the four most frequent methods used by both males and females. While a larger number of females ingested drugs, there were no reported cases of ingestion of poisons, such as cyanide or insecticides. Surprisingly, seven (10.6 per cent) of the males ingested these poisons, with six of these being cyanide deaths.

Members of certain age groups predominantly utilize one or two methods. A trend can be seen, as less traumatic methods are used by people in the 40s, while young and elderly victims tend to use the more traumatic methods. Fifty per cent of the teenagers, 41.7 per cent of the victims in their 20s, and 34.6 per cent in their 30s used firearms as a means of self-destruction (see Table III). Hanging and firearms each accounted for 22.3 per cent of the suicide deaths between the ages of 50 and 59. Hanging was used by 26.3 per cent of the victims 60 years and above. Drugs and carbon monoxide poisoning each accounted for 27.3 per cent

TABLE III

SUICIDE BY METHOD AND AGE OF VICTIMS

Method	15-19	20-29	30-39	40-49	50-59	60+	Total
Firearms	2	10	9	1	4	4	30
Drugs	0	4	3	3	2	4	16
Hanging	1	3	3	0	4	5	16
Carbon Monoxide	1	3	3	3	3	3	16
Poison	0	1	3	0	2	1	7
Drowning	0	1	3	1	0	0	5
Jumping	0	0	1	0	1	2	4
Conflagration	0	1	0	0	1	0	2
Alcohol Intoxication	0	0	1	1	0	0	2
Suffocation	0	1	0	0	0	0	1
Alcohol and Barbiturate	0	0	0	2	1	0	3
Total	4	24	26	11	18	19	102

TABLE IV

SUICIDE BY METHOD AND MONTH

Month	Firearms	Drugs	Carbon Monoxide	Hanging	Poison	Drowning	Jumping	Other
January	2	1	0	1	1	0	2	1
February	1	1	0	0	0	0	0	0
March	2	1	1	2	1	1	0	0
April	3	1	1	0	1	1	0	0
May	3	1	0	2	1	1	0	0
June	4	0	0	2	1	1	0	1
July	5	3	1	1	0	0	0	1
August	1	1	1	2	2	0	0	1
September	3	3	2	1	0	1	0	2
October	3	1	5	1	0	0	0	2
November	1	2	1	2	0	1	0	0
December	3	1	4	1	0	0	1	0
Totals	31	16	16	15	7	6	3	8

of the deaths of individuals in their 40s.

SEASON

Certain methods of suicide appear to be seasonal. For instance, methods which generally occur outdoors will take place predominately during the warmer months. Those ingesting drugs tended to prefer the late summer months. Forty-one per cent of the suicides took place between July and September (see Table IV). Between the months of October and December 62.5 per cent of all carbon monoxide cases were reported. Automobile engines were the source of carbon monoxide in each instance. There were no examples of poison ingestion between the months of September and December. Seventy-five per cent of the jumping victims committed their act during December and January. Somewhat surprisingly, the "holiday season" of December with its associated melancholia produced less than 10 per cent of the suicide total, but it is of interest that 28 per cent of the homicides in 1974 occurred during this month.[7]

PRECIPITATING FACTORS

A wide range of factors which cause people to self-destruct has been cited. The primary reason in this series was domestic or marital conflicts, with 16 cases reported in which this was the underlying factor (see Table V). The second leading cause of suicides was depression. In some patients the depression seemed to have been brought on by a recent trauma while in others it could have involved a prolonged ordeal. Eight of the victims were in an "ill state of mind," or harbored a non-specific psychiatric condition. There were several cases in which the victim had been hospitalized one or more times for psychiatric care. Unemployment and arguments ranked as other primary causes of suicide. Ten cases were reported in which the victim was afflicted with an organic disease state. This group was made up predominantly of elderly people. There were also 10 cases in which recent family deaths had played a role in precipitating the suicide, with nearly all of them caused by a deep state of anxiety due to the loss of a loved one. In one case a known suicide was the force initiating the subsequent incident. There were 23 cases in which the underlying cause or precipitating factor was either unknown or uncertain.

(Continued on page 380)

TABLE V

MAJOR PRECIPITATING FACTORS

Domestic or Marital Conflict	16
Known Depression	13
Organic Disease	10
Death of Family Member	10
Unspecified Psychiatric History	8
Argument (boyfriend or girlfriend)	5
Unemployment	4
Financial Problems	3
Divorce	2
Imprisonment	2
Religious or Social Conflict	2
Armed Forces (service connected)	2
Business Reverses	1
Drug and Alcohol Dependency	1
Unknown	23
Total	102

Pseudocysts Of The Pancreas, A Community Hospital Experience

Importance Of Applying Sound Surgical Principles Is Emphasized

By D. A. Di Donato, M.D., F.A.C.S.

This study represents a community hospital experience with pseudocysts (and phlegmon) or pseudo-pseudocyst of the pancreas. Although there seems to be little disagreement that they require surgical intervention for the relief of symptoms and to avoid rupture associated with high mortality, the variety of procedures recommended is proof of the uncertainty about the ideal procedure. Spontaneous resolution is sporadically reported in the literature;[1] our experience with a small number of cases re-emphasizes the concept that surgery is still the treatment of choice for this disease. Those few patients who had radiographic evidence of pseudocyst but improved gradually on conservative management most likely represent cases of phelgmon rather than a true pseudocyst of the pancreas.[2] Pseudocysts develop in general as a result of other diseases affecting the pancreas, such as acute and chronic pancreatitis, pancreatic injury, and neoplasia. They vary in size, anatomical location, etiology, and histology. Some are cystoadenomas, and some are cystadenocarcinomas.[3] They are not very common, and the experience in most large clinics and medical centers is limited to relatively few cases.

Most pseudocysts are unilocular and in general are located in the lesser peritoneal sac. However, they can occur in the transverse mesocolon behind or within the pancreas itself, or in the omentum. Since they result from disruption of the ductal system of the pancreas, size and location of the lesions are dependent upon the position and extent of the injury and the secretory pressure of the pancreas distal to the ductal damage.

MATERIAL

From 1970 to 1975, inclusive, there were 281 patients with acute pancreatitis and 126 with chronic pancreatitis admitted at Kent County Memorial Hospital. Only three cases of pseudocyst developed in the former group and two in the latter. One patient with acute pancreatitis developed a pseudocyst in the acute phase of the disease and was operated on one month after admission and found to have a rupture of the cyst through the transverse mesocolon. Another patient who had radiographic evidence of pseudocyst and cholelithiasis was managed conservatively. Three months later he underwent surgery for biliary tract disease, and no pseudocyst was found. This case represents a phlegmon of the pancreas which is recognized with ever-

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increasing frequency. The records of thirteen patients either admitted with or who developed pseudocysts in the acute phase of their disease were reviewed. One patient was excluded from this group as he was operated on in the early phase of acute pancreatitis and found to have pancreatic abscess and necrosis. The salient clinical data of these patients are shown in Table 1.

PATHOGENESIS

Most pseudocysts contain pancreatic juice and its enzymes: lipase, trypsin, chymotrypsin, carboxypepsidase, and bicarbonate, inflammatory debris, and sometimes frank blood. The fluid originates from disruption of a main pancreatic duct or from the acinar cells in the pancreas. It produces a minimal inflammatory reaction with a fibrinous exudate in the periphery. In one to several weeks this fibrinous shell becomes a tough capsule. No true secretory endothelium is present within the central layer of the cyst. Prerequisites to the development of pseudocysts are:

1) Ductal rupture communicating with a potential space
2) Actively secreting pancreas
3) Interference with normal ductal drainage

In human subjects the potential space is provided by the pancreatic capsule and lesser peritoneal sac.

DIAGNOSIS

The symptomatology in our small group of cases parellels that of large series reported in the literature.[4] The principal complaints and clinical findings are listed in Table II.

Clinical Findings — A palpable non-pulsatile tender abdominal mass was present in about 40 per cent of the patients, hydrothorax in one patient, and icterus in two. Most of the patients had epigastric abdominal or left upper quadrant tenderness and one had ascites.

Laboratory and Radiographic Findings — Slight leukocytosis was present in 50 per cent of the cases. A timed urinary amylase, which eliminates fluctuation with changes in urine concentration, is a much more sensitive and reliable test in the preoperative evaluation of patients with pseudocysts. In only two of our patients were the urine amylase and lipase determined. Although not timed and expressed in units per hour, it was found slightly elevated in both.[5] Elevated bilirubin may result from either choledochal compression by the pseudocyst or intrinsic biliary tract or parenchymal liver disease. Liver enzymes are abnormal, as some of these patients are chronic alcoholics with liver cirrhosis, chronic pancreatitis, and malnutrition. Pleural effusion with high amylase content was present in one patient (a 20 to 35 per cent incidence is reported in large series in the literature).

Glucose Metabolism — In 50 per cent of the cases glucose intolerance is demonstrable by either a glucose tolerance test or a two hour postprandial glucose determination. This again reflects the high incidence of chronic and acute alcoholic pancreatitis as a cause of the pseudocysts. (See Table III.)

Radiographic Studies — Pancreatography: Antegrade or a retrograde pancreatogram is helpful at time of surgery in patients with very small cysts. It is extremely hazardous and sometimes technically very difficult in patients with very large cysts. It is the only test that permits the surgeon a thorough assessment of the ductal system of the pancreas (presence of stones, strictures, and communication of the ductal rupture with the cyst). This allows the surgeon to treat the cyst and its underlying cause. More recently endoscopic transduodenal pancreatography has been successfully performed. This obviates the danger of retrograde pancreatography and still provides the surgeon with all the necessary data. None of our patients underwent any of these studies.

Intravenous Pyelogram — An IVP is sometimes helpful in differentiating pancreatic pseudocysts from lymphomas or other malignancy of the retroperitoneal space and an intrinsic tumorous mass of the kidney. Most commonly the IVP shows a downward displacement of the left kidney. A barium enema may show a downward displacement and thinning out of the transverse colon by a cystic mass. This is a fairly reliable finding in the differential diagnosis of pseudocyst from lymphomas, as the latter displace the colon upward.

Upper Gastrointestinal (GI) Series: The most common findings on examination suggesting pseudocyst are:

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TABLE I

Relevant Clinical Data on 12 Patients with Pancreatic Pseudocysts Treated at K.C.M.H. From 1970 to 1975, inclusive

Case No.	Age and Sex	Presenting Symptoms	Physical Exam	Laboratory	X-rays	Operations & Findings
I. C.C. 194296	68F.	LUQ. & left kidney pain	Epigastric tenderness Hepatosplenomegaly	Leukocytosis Normal serum amylase	Mass LUQ. IVP. normal Retrograde mass over left kidney Hepatosplenomegaly by scan	Marsupialization Large pseudocyst Cystomucinous ca of pancreatic origin
II. B.McL. 197046	19F.	Epigastric pain 3 mo. after blunt trauma of abdomen	Very tender mass LUQ.	Marked leukocytosis Elevated serum amylase Temp. 104F.	IVP. neg. GI. neg.	Cystogastrostomy Large pseudocyst with hemorrhage Biopsy of omental nodes. Cystomucinous ca
III. E.W.V. 171922	39M.	Abdominal pain Postprandial vom. Weight loss 3 mo. after acute pancreatitis	Large tender mass epigastric region	Elevated serum amylase. Leukoc. Abnormal liver profile Elevated B.S.	GB. stones GI. neg.	Roux-en-y cysto-jejunostomy Cholecystectomy Cholangiogram Jejuno-Jejunostomy Pseudocyst pancreas
IV. R.J.F. 224426	46M.	Abdominal pain Vomitus Previous gastrectomy & revision from BII. to BI. for marginal ulcer	Epigastric tenderness	Elevated serum amylase. Abnormal liver profile	GB. non vis Pancreatic calcification GI. displacement stomach & duodenum	External drainage Cholecystectomy X-ray Pseudocyst of pancreas
V. R.W.C. 192411	64M.	Abdominal pain due to acute hemorrhagic pancreatitis	Rigid abdomen Shock	Elevated serum amylase & blood sugar Marked leukoc.	GI. series Displacement of fundus stomach Widening of duodenal C loop	External drainage one mo. after pancreatitis Amylase cyst 1600 units
VI. E.J.M. 229143	48F.	Vague abd. pain Admitted for elective repair of hiatus hernia with esophagitis	Minimal epigastric tenderness	Within normal limits	Sliding hiatus hernia Esophagogastroscopy & biopsy: reflux esophagitis	Ext. drainage Hiatus hernia repair. Vagotomy Pyloroplasty Splenectomy
VII. E.G P. 194746	32M.	Epigastric pain Vomitus	Epigastric tenderness & mass	Persistent elevated serum amylase Leukocytosis	Left pleura effusion GI., GB. neg.	Cystogastrostomy Pseudocyst of pancreas
VIII. A.V.O. 234634	70M.	Abd. pain Acute pancreatitis	Marked abdominal tenderness	Leukocytosis Elev. serum amylase	GB. non vis GI. displacement of fundus stomach Widening of duodenal C loop	Cystogastrostomy Cholangiogram No cyst found (? phlegmon of pancreas)

IX. J.A.B. 198706	32F.	Abdominal pain Chronic recurrent pancreatitis Alcoholism	Abdominal tenderness	Abnormal liver profile Elevated serum amylase	GI., GB. neg.	Cystogastrostomy Pseudocyst of pancreas
X. L.S.M. 247897	35F.	Abdominal pain Chronic recurrent pancreatitis due to alcoholism Liver cirrhosis	Tender distended abdomen Ascitis	Abnormal liver profile Normal serum amylase	GI., GB. and IVP., normal	Cystogastrostomy Massive ascitis Pseudocyst pancreas
XI. N.R. 250965	22M.	Abdominal pain Postprandial vom. 6 weeks after trauma with spleen & liver lacerations Treated with Splenectomy & Hepatorrhaphy	Epigastric & left CVA. tenderness	Leukocytosis Persistent elev. serum amylase & left pleural effusion	GI., Widening of duodenal C loop, Deformity of body of stomach, Positive sonogram	Cystogastrostomy, Large lesser sac cyst, Amylase content 1000 units
XII. D.J.F. 252215		Abdominal pain due to acute pancreatitis Chronic alcoholism	Rigid abdomen	Persistent elevated serum amylase, Leukocytosis Abnormal liver profile	GI. widening of duodenal C loop, Effacement of stomach	Conservative treatment (? phlegmon pancreas) X-ray findings believed due to resolving edematous pancreatitis

Table II
Symptoms and Clinical Findings

Symptoms:	
Epigastric and abdominal pain	95%
Nausea, postprandial vomitus	85%
Anorexia	45%
Weight loss	40%
Increased abdominal girth	10-15%
Findings:	
Tender non polsatile abdominal mass	40%
Epigastric tenderness	95%
Hydrothorax	10-20%
Icterus	5%
Ascites	3-4%

Table III
Laboratory and Radiographic Findings

Leukocytosis	
Increased serum and urine amylase	
Bilirubinemia	intrinsic biliary tract disease choledochal obstruction by the pseudocyst
Abnormal glucose metabolism	
Displacement of surrounding organs and evidence of mass by barium studies	
Pleural effusion	
Arteriography	
Pancreatography	

1) Effacement of the fundus of the stomach
2) Widening of the duodenal C loop
3) Compression of the fourth portion of the duodenum at the ligament of Treitz

These changes are reported as being present in about 85 per cent of the cases in the literature (Figure 1).

Kidney-Ureter-Bladder X-ray Film (KUB): KUB may show pancreatic calcification (20 per cent of cases) present in alcoholic patients with chronic recurrent pancreatitis.

Selective Arteriography: This procedure is helpful especially in cases of intracystic bleeding. A large mass may produce thinning out and bowing of the splenic artery and displacement of the gastro-duodenal and inferior pancreatico-duodenal arteries.[6] None of our patients were subjected to this examination.

ULTRASOUND

This new noninvasive scanning technique has been recently applied with considerable accuracy in the differential diagnosis of cystic and solid lesions of the pancreas and retroperitoneal space.[7] Sound waves with very high frequency (two-and-one-quarter million cycles per second) are reflected from tissue

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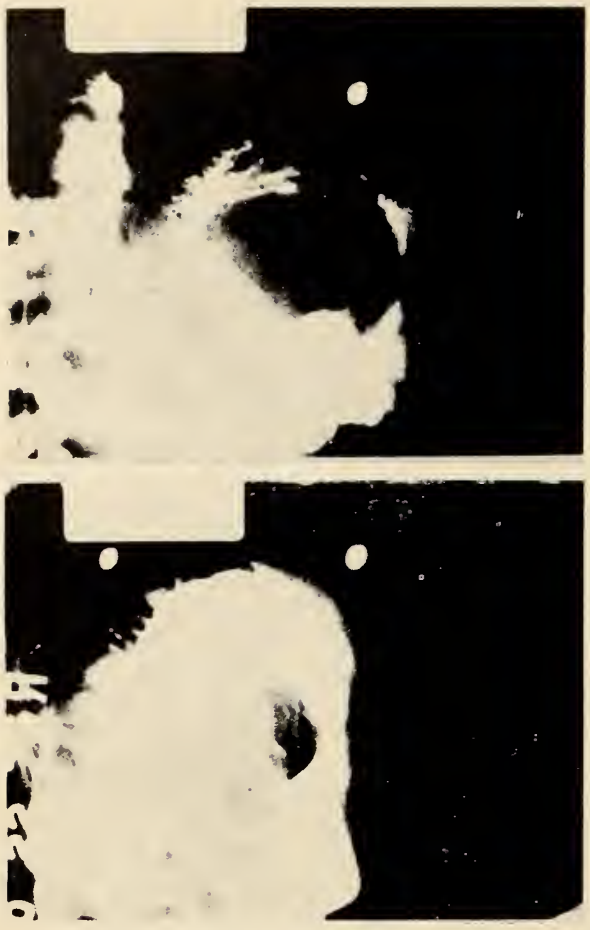


Figures 1A and 1B
Cast XI. N.R. 22M. — G.I. Series shows effacement of the stomach with extrinsic retrogastric mass consistent with large pseudocyst of pancreas.

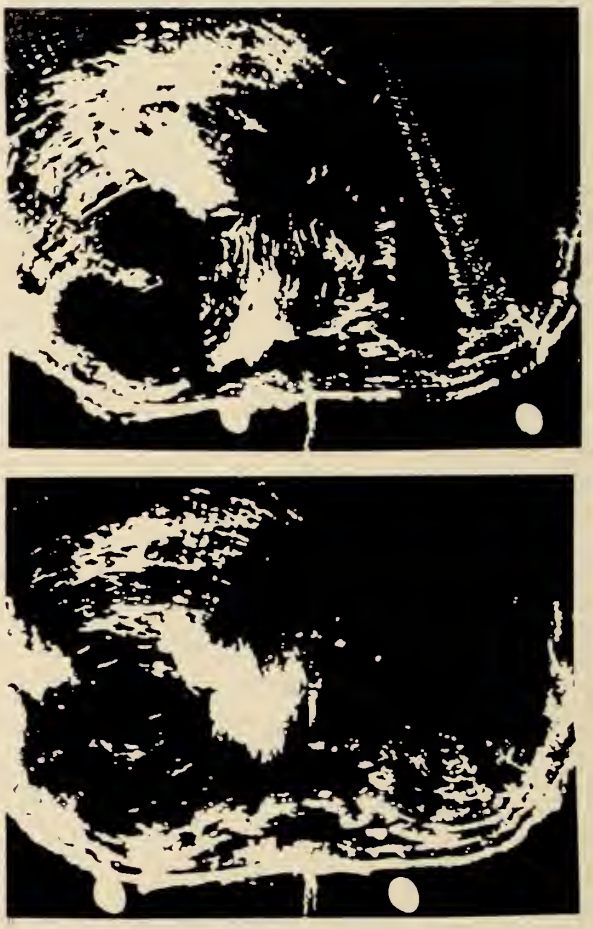
interfaces with different impedances. The reflected ultrasound (echoes) may be shown on an oscilloscope and photographed for permanent record. Normal organs and cysts filled with fluid are transsonic and produce very few echoes except at their borders; pancreatitis and tumors, on the other end, produce many echoes. This is helpful in differentiating cystic from solid pancreatic masses. Two patients underwent this investigation. One showed a pancreatic pseudocyst which was confirmed at surgery; the other showed evidence of pancreatitis, and no surgery was performed (Figure 2).

One of the best studies on the application of diagnostic ultrasound is that reported by Bradley and Clements.[8] They studied nineteen patients with a clinical diagnosis of pseudocyst, who subsequently had either an operation or an autopsy. In ten the pseudocyst was accurately predicted and confirmed by operation. In nine patients phlegmonous pancreatitis was predicted, and this was correct in eight with one false negative report. Stuber, Templeton and Bishop have reported a diagnostic accuracy of over 85 per cent in pancreatic lesions including pancreatic carcinoma (seven of eight cases).[9]

ETIOLOGY

Acute pancreatitis, trauma, alcoholism, and choletithiasis are the most common causes of pseudocysts. In our group there were three patients with acute pancreatitis, two patients with adenocarcinomas, two with trauma, two with phlegmon of the pancreas, one with cholelithiasis, and two with chronic recurrent pancreatitis (See Table IV).

Age and Sex Incidence: Our youngest patient was nineteen and our oldest seventy years of age. There were five females and



Figures 1C and 1D
Case XI Ultrasound — Posterior, longitudinal and transverse scans of the pancreas shows a large pseudocyst. The spleen is absent as it was removed on previous surgery. Correlates well with G.I. Series.

Figures 2A and 2B
Case XII. D.J.F. 42M. G.I. Series shows hiatus hernia and widening of duodenal C-loop with some spiculations of its medical aspect. Suggestive of pancreatitis. This correlates well with the absence of pseudocyst on sonogram.

seven males. The average patient age was forty.

COMPLICATIONS

Hemorrhage and rupture of the pseudocysts are two of the most serious and life-threatening complications. Hemorrhage can occur preoperatively and postoperatively and is the result of erosion of major arteries such as the splenic, gastroduodenal, and inferior pancreaticoduodenal arteries. Many patients have an abnormal clotting mechanism as result of liver parenchymal disease or injury, prolonged starvation, nasogastric suction, and use of broad spectrum antibiotics. Prothrombin levels should be corrected promptly with the use of parenteral vitamin K.

One of the newer adjunts to the treatment of these patients is parenteral hyperalimentation through a centrally placed intravenous cannula. This will prevent starvation and will keep the patient in optimal nitrogen balance. Severe hemorrhage requires prompt surgical intervention and ligation of the intracystic or extracystic bleeding point. Selective arteriography and pitressin injection through a catheter placed in the bleeding artery is sometimes helpful in preventing mucosal hemorrhage.[10] Rupture of the pseudocyst into the free peritoneal cavity is associated with hypovolemic shock and results in a high mortality. The pseudocyst in one of our patients ruptured through the transverse mesocolon and was successfully treated with resuscitative measures and external drainage. Other complications are infection with pancreatic abscess requiring drainage or pancreatectomy, intestinal obstruction, diabetes mellitus, oc-

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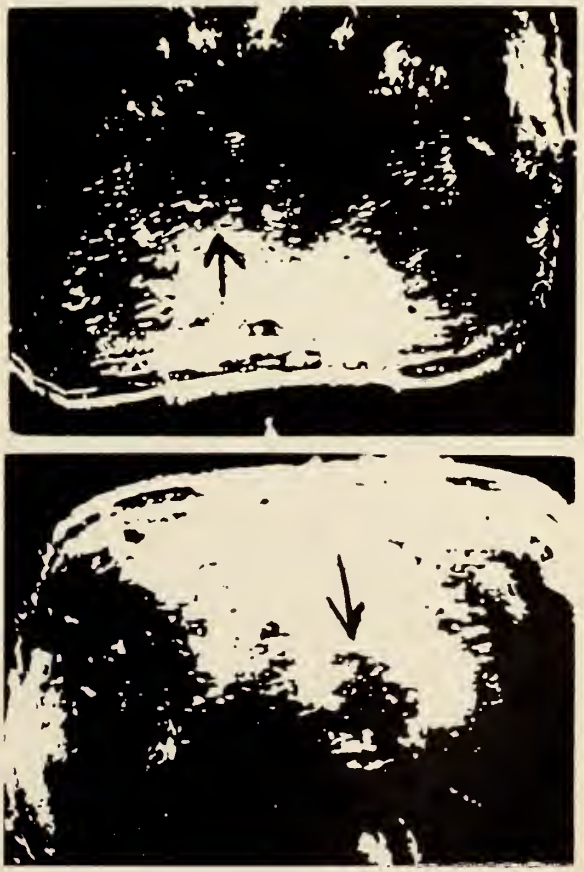

Figures 2C and 2D
Case XII. Pancreatic Sonogram — Longitudinal and transverse scans of the pancreas fails to demonstrate any fluid filled cysts, confirming a diagnosis of pancreatitis. Arrows indicate abdominal aorta.

Table IV
Etiology of Pseudocysts

Etiology	Number of Patients
Acute pancreatitis	3
Neoplasia	2
Trauma	2
Chronic recurrent pancreatitis	2
Cholelithiasis	1
"Phlegmon"	2
Total number of pseudocysts: 9	

Table V*
Methods of Treatment and Results in Ten Cases-

Procedures	No. of Operations	Results
Excision	none	Satisfactory
External Drainage	4	Satisfactory
Roux-en-y cystojejunostomy	1	Satisfactory
Cystogastrostomy	5	Satisfactory
Conservative management	1	Satisfactory
Total	11	

*The discrepancy is due to the fact that in one patient no pseudocyst was found at laparatomy.

clusion of the splenic vein, and pleural effusion.

MANAGEMENT

The Surgical treatment of pancreatic pseudocyst is excision when possible, or drainage externally or internally to a hollow viscus. Although the operation of choice appears to be a Roux-en-y cystojejunostomy, this is not always possible. The type of operation will vary with the location of the cyst, the status of the capsule, the preference of the surgeon, and the presence of associated pathological findings. We have had gratifying results with cystogastrostomy. (Table V).

One of the patients who underwent external drainage was subsequently found to have a mucinous cystadenocarcinoma and died six months later. Three patients had concomitant surgery, in two cases a cholecystectomy, and in one a hiatus hernia repair with vagotomy, pyloroplasty, and spenectomy were performed.[11, 12]

Our experience with a small group of cases re-emphasizes the imperative that the surgeon must keep in mind at the operating table: a) aspiration of the cyst and determination of amylase content; b.) biopsy of the cystic wall; c.) avoidance of external drainage in patients with carcinoma; and d.) tailoring the operation to the needs of the patient, the associated pathological findings, and the local anatomic pathological situation.

SUMMARY

This is the report of a community hospital experience with pancreatic pseudocysts. The etiology, pathogenesis, and treatment of this relatively rare disease have been outlined.

The use of ultrasound has been found valuable in the differential diagnosis of pseudocyst and "phlegmon" of the pancreas.

During a five year period ten cases of pseudocysts were treated with good results. The most commonly used operations were cystogastrostomy and external drainage. Only one case was treated with a Roux-en-y cystojejunostomy. Our experience re-emphasizes the importance of the application of sound surgical principles and proper evaluation of the local anatomopathological situation.

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Public Service And Ethics In Government

Private Morality Can Influence Public Policy And Set The Tone Within Which Government Operates

By Joseph L. Lennon, O.P.

No individual in these United States can hold himself aloof from government. We are all deeply involved in it and are affected by its processes, whether we realize it or not. If you are a student or a teacher, an employer or an employee, if you get a ticket for parking or speeding, if you fill out an income tax blank, you are involved with government. Every time you see policemen or firemen in operation, or see a school, you are watching government in action. I cannot think of any human activity in our modern society where the impact of government is not felt. Government is all around you. It fairly cries for conscientious, honest, reliable, efficient workers. Unfortunately, far too many people are indifferent to government or are merely critical of its operations. They themselves do not want to get involved.

That is why college students should seriously consider becoming involved in government as a possible career choice. With their particular combinations of talents and training, college graduates should be able to qualify as competent officials or employees. Indeed, in a very real sense, government service is a "calling" to service to your fellow man, and Albert Schweitzer once said: "I don't know what your destiny will be, but one thing I know: the only ones among you who will be really happy are those who have sought and found how to serve."

Good government is absolutely essential for the peace and order of our land. Someone has to do it. Someone has to shoulder responsibility for running our country. Chaos results if there is no one governing.

Jesus Christ bears witness to the importance of government and government service. He said: "Whose is the coin of tribute? . . . Render unto Caesar the things that are Caesar's." He went so far as to choose a government official, one of the despised tax collectors, as the apostle who became St. Matthew. He himself ate with the so-called Publicans, while others scorned to associate with those who were identified in government service.

So, my message to you is simple and straightforward: Government service is a high and noble calling. But if you enter it for unsound reasons: the security of civil service, the fringe benefits, or because you

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Address delivered at the close of the Rhode Island State Government Internship Program.

think the pay scale generous, then you are bound to be disappointed. No honest person ever got rich from serving government. Indeed, even the obvious rewards are balanced by hidden burdens. Frustration, ignored achievement, bureaucratic in-fighting, overwork, thoughtless superiors, jealous co-workers, insensitive legislatures, a sometimes hostile press, an often unsympathetic public — these are the lot of public servants everywhere to some degree.

Today, as never before, there is a premium on good government. The efficient running of a nation or state depends upon the quality of the key men or women in each area of policy decisions and operations. Even inadequate laws or regulations administered by skilled and sensitive public servants can often do more to decrease suffering or increase happiness than the best of laws carried out by incompetent, mediocre, and unimaginative officials.

We cannot legislate mediocrity out of existence. And mediocrity in government is an expensive luxury. In federal, state, and local government it is a shackle on progress. The long-run cost is a pall of defeatism, narrow-mindedness, pettiness, and a focus on what has happened, not on what can happen. But for this nation, this period of history, mediocrity is not merely expensive; it could be lethal. Indeed, Government is like an iceberg. Only its top is visible. The quality of the operation of government depends on the people who actively work beneath the surface, as it were, in the day-to-day operation of it.

We Americans have always boasted that ours is a government of laws and not of men. It is clear, however, that our laws will be no better than the men who will enact and administer them. I hesitate to use the word "bureaucrat," because of its pejorative connotation; it raises emotional hackles. No alert young man or woman would ever want to become a "bureaucrat." That is because we still go by Webster's old definition of a bureaucrat as an "official of a bureau, especially one pursuing a narrow and arbitrary routine." But time has passed this definition by. This nation, this state, this community—all owe an incalculable debt to its good bureaucrats. There cannot be good government in a complex society without a good bureaucracy.

Unfortunately, the creation of a good bureaucracy, which is merely another way of labeling professionalism in public affairs, has not been a natural by-product of our own history. Unlike some countries, Great Britain, for example, we have not been able to establish traditions and prestige symbols of public or civil service which would attract the ablest of our young people — or if they are outstanding, they do not stay long in government service. This constant turnover of competent, top-drawer personnel points up the fact that public service presents a tarnished image to the cream of the rising generation; otherwise it would stand at the top of the catalog of careers to which bright young men and women are attracted.

The fact is that excellence of brains and talent is as necessary at every level of public service as it is in private enterprise. The challenge of making American democracy work, and for "work" you may substitute "survive," falls no less on the city mayor or manager than on a senator or a secretary of state, on a planner in the smallest city or a zoning official in the smallest town, on a state voting official no less than on drafters of treaties and molders of foreign policy.

But who will deny that the Agnew double-dealings, Watergate, and other shenanigans by public officials have placed government service under a smog of suspicion and cynicism. Exposures of unsavory trickery in government contracts, bribery of officials, and other forms of financial corruption have caused loss of respect for government service. Sixty years ago Boss Plunkitt of Tammany Hall wrote of "honest graft," and summarized his autobiography in the wonderfully succint observation: "I seen my opportunities and I took 'em."

Inside knowledge of future official action — the location of a bridge or new highway, or the construction of a public building — offer the "opportunities" that Plunkitt and his many imitators exploit. When you think of the modern American city, with its mobile population, bridge and road building, public schools and housing, civic centers, and other large undertakings, the pecuniary stakes are enormous — and the political machine is the focus of power to distribute the plums. Indeed, even if the party in power is unusually enlightened, the very

nature of the system — based on rewarding political loyalty and seniority — tends to corrupt civil administration. Those areas of government service which come under the patronage system are most open to abuse. In the past we have had more than our share of "five percenters" and other influence peddlers, and their sordid activity has contributed to the low esteem in which government service is held.

But the dishonesty of public servants reflects not only upon the quality of their personal morality but also upon the general level of morality prevailing in the United States. In a democracy where public officials move from private life into public office and back again, there is a carry-over of influence and of attitude and certainly a reflection in public office of the general level of morality held to or sustained in private life. Standards observed and accepted by the people will be reflected in some measure in the conduct of the officials of the country.

In this time of rapid change people are paralyzed by a neurosis of bewilderment concerning values and their application in daily living; they are lacking a refined sense of right and wrong. A moral relativism seems to have replaced the moral certitudes of the past. "Who am I to say what's right and wrong," is a remark one often hears. A new code of American ethics seems to be evolving in which absolute standards give way to an "it depends" mentality. Would you fake an insurance claim, 'It depends on the amount," says a motorist. Would you return a lost wallet? "It depends on who owned it," says the store clerk. Is it wrong to cheat in school? "It depends," says the student. Would you take a bribe or graft? "It depends," says the government official, "on whether it is an accepted practice."

It is significant that in almost every case in which an accused public official has attempted to defend himself, he has argued that his actions were fully within the bounds of accepted practices in the business world or the professional group to which he belonged. Spiro Agnew said he was innocent because he went along with the system; Serpico got nowhere in his many attempts to buck the system. People in the system go along because "that's the way you get things done," or because "no government official can live in the style expected of him on the salary they pay him."

Moreover, it is worth noting that the law's reach is necessarily limited, and much of the most dangerous and destructive corruption of our times is entirely legal. The law itself may be used to reap enormous rewards at public expense, as through subsidies, write-offs, or manipulation of the tax structure. The little fees and favors of minor officials are trivial in comparison to the special-interest legislation of such large dimensions. As the old English rhyme has it:

The law locks up both man and woman
Who steals the goose from off the common,
Yet turns the greater felon loose
Who steals the common from the goose.

Perhaps the transcending malady of our day is the plague of compromise-with-principle. It produces the equivocal man — a strange creature who stalks the land in growing numbers. For the equivocal man integrity becomes a word of relative meanings. Things which his forebears would never have condoned come easier to rationalize and explain away. Codes of personal conduct become "anything goes" so long as you can get away with it. This deterioration boils out into open sores when payola schemes are brought to light, government officials are indicted for frauds, and general crime statistics soar. In such an atmosphere the no-compromise-with-evil spirit of our forefathers grows dimmer.

A quarter of a century ago the anthropologist, Ruth Benedict, speculated that the United States was ceasing to be a "guilt culture" (one in which control of wrongdoing is self-imposed by means of conscience) and becoming instead a "shame culture" (one in which it is externally imposed by means of public humiliation or punishment, as in various Eastern cultures). In other words, there seems to be a shift of some kind in the approved technique by which American society enforces honesty. Apparently, when dishonesty is prevalent, it become much easier to live with a bad conscience; so external techniques of control, rather than internal ones have to take over. The government, to protect itself, has to take prompt action; has to create an atmosphere showing that Big

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Editorial

BLUE SHIELD RATE FILING

On May 6, 1976 Blue Shield of Rhode Island filed a petition with the Director of Business Regulation for increased rates effective August 1. The most important element in that filing so far as the physicians of Rhode Island are concerned had to do with increases in fee profiles for Plan 100, which is a full coverage plan for subscribers using the services of 94 per cent of Rhode Island physicians who "participate" in the plan. These profiles of "usual, customary, and reasonable" fees are calculated by methods approved by this Director of Business Regulation and his predecessors since Plan 100 has been in effect. The submission was in accordance with previous directives of the department. Medicare permits periodic fee changes provided they conform to the physician's actual charges in an earlier specified period. While there is a lag in the effective date of such changes, the method used is clear and specific. For Plan 100 the physician must specifically request fee changes before they will be recognized. They must then be submitted to the Director of Business Regulation for approval. This results in the peculiar anomaly of each physician having two profiles of usual, customary, and reasonable fees. While causing understandable confusion on the part of many physicians, the inconsistency hitherto has been a tolerable burden.

The new decision by the Director of Business Regulation released on July 13, 1976, however, may well change the attitude among physicians from one of confusion to one of high resentment. Substantial portions of the requested premium rate increases were denied. Some of the language in the decision should be of interest to our readers.

"In our opinion," states the decision, "the most significant single component of the rate increases applied for is that which is attributable to the increase in fees for participating physicians. This amounts to an increase of 9.4 per cent in this filing . . . .

"The level of approved fees and any increases thereto are derived from a so-called 'fee profile' which is submitted by participating physicians to Blue Shield and is supposed to contain the usual and customary charge for various procedures performed by the physician. According to the applicant's testimony, these fee profiles are reviewed for their reasonableness, and then Blue Shield allows all fees that fall within the ninetieth percentile of all fees submitted. **This appears to us to allow the physicians, if they so choose, to act in consort to raise their fees, and we questioned this in last year's hearings.** (Bold added.) We note with interest that since then, the Federal Trade Commission has raised the same question and is currently investigating this arrangement nationwide.

"The applicant's position in this filing is that we have no direct control over profiles, as they are subject to negotiated contracts between Blue Shield and physicians which have already been executed. The applicant has further testified that the fact that 94 per cent of Rhode Island physicians participate in Plan 100 is evidence that Plan 100 is successful in providing subscribers with a high degree of freedom of choice among physicians. While we do not dispute this observation, **it also leads us to observe that perhaps the reason there is such a high degree of participation is because the physicians find this to be a lucrative program to their advantage, possibly at least as much or more so than it is to the benefit of the subscribers.**" (Bold added.)

Continuing in this pejorative vein, the decision further states: "The mere fact that 94 per cent of the physicians in this state participate in Plan 100 and that in the applicant's opinion the fee increases are reasonable is not sufficient evidence to satisfy the test of the statute that ' . . . the rates proposed . . . are consistent . . . with the interest of the public.' The rates may appear to be reasonable to the applicant, its board of directors, of which one-half are physicians, and to all participating physicians. However, the applicant has not met its statu-

tory burden in this regard and, while the applicant may be correct in its position that we have no direct control over profiles, especially those that are subject to existing contracts, we have no alternative but to disallow any increase in rates attributable to the 9.4 per cent increase in physician fees."

Physicians have been under mounting fiscal pressures and regulatory restraints. It is not generally recognized that physicians' net incomes are appreciably less than the usually quoted gross income figures. While many physicians are undoubtedly affluent, others are not, and most are harrassed by inflationary increases, not only in living expenses, but also in the costs of doing business, which can be as much as 40 per cent of gross income. The damaging effects of the skyrocketing premiums in malpractice insurance are still with us, the director well knows. While intelligent efforts are being made to control the malpractice situation in Rhode Island, the payoff in lower premiums is probably well in the future, if in fact it ever materializes. With an overall inflation rate of some 7 per cent in the general economy and the malpractice problem superimposed on that, the requested fee increases are far from unreasonable.

The allegations of collusion, furthermore, are entirely gratuitous. It would seem only fair that evidence should be forthcoming for these unwarranted reflections upon a whole profession before so lightly casting serious aspersions for motives which must be suspect.

Rhode Island has been particularly favored by the participation of an unprecedented 94 per cent of its physicians in a full payment plan. If many now feel that it is not worth the candle, unsupported accusations of collusion will not deter them from acting in accordance with their conscience.

BOOKS RECEIVED FOR REVIEW

(Continued from Page 349)

ough O'Brien, M.D., F.R.C.P.; et al. Los Altos, California, Lange Medical Publications, 1976. $15.00.

MEDICAL STATISTICS IN WORLD WAR II by the Medical Department, United States Army. John Lada and Frank A. Reister editors. Washington, DC, Office of the Surgeon General, Department of the Army, 1975.

A NEW KIND OF JOY, THE STORY OF THE SPECIAL OLYMPICS by James Haskins. Garden City, New York, Doubleday & Co., Inc., 1976. $7.95.

REVIEW OF MEDICAL MICROBIOLOGY 12th Edition by Ernest Jawetz, Ph.D., M.D. et al. Los Altos, California, Lange Medical Publications, 1976. $10.00.

A PATTERN OF HERBS by Meg Rutherford. Garden City, New York, Doubleday & Co., Inc., 1976. $2.95.

A GUIDE TO ALTERNATIVE MEDICINE by Donald Law. Garden City, New York, Doubleday & Co., Inc., 1976. $2.50.

A PATHOPHYSIOLOGIC APPROACH TO DISORDERS OF POTASSIUM HOMEOSTASIS

(Continued from page 363)

effects are only transient, and net potassium loss from the body must be accompanied by increasing renal excretion of potassium, by anion exchange resins (Kayexalate®), or by dialysis when the patient is oliguric.

Although the list of conditions associated with hypokalemia and hyperkalemia is large and continually expanding, the physiologic mechanisms causing the disorder of potassium homeostasis are limited. In searching for the cause of an abnormality of serum potassium, the clinician should try to define what mechanisms are involved in producing and maintaining the disorder. In this way, not only will the proper diagnosis be made, but the most appropriate therapy can be instituted.

REFERENCES

[1]Katsikas JL ,Goldsmith C: Disorders of potassium metabolism. **Med Clin North Am** 55:503-12, Mar 71 (10 ref.)

[2]Schultze RG: Recent advances in the physiology and pathophysiology of potassium excretion. **Arch Intern Med** 131:885-97, Jun 73 (106 ref.)

[3]Weiner M, Epstein FH: Signs and symptoms of electrolyte disorders. **Yale J Biol Med** 43:76-109, Oct 70 (182 ref.)

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SUICIDE PERSPECTIVES IN RHODE ISLAND IN 1974

(Continued from page 367)

SUMMARY

The 102 suicides for the year 1974 in the State of Rhode Island and Providence Plantations are reviewed. Previous suggestions as to "mental tranquility" in this jurisdiction seem to be unsubstantiated and are perhaps misleading. Suicide has increased 50 per cent in two years, so that it now ranks as the 10th leading cause of death. Present-day stress and unfavorable economic factors may be no more important than improved standards for suicide determination in accounting for this abrupt rise. A slight increase of suicides in rural areas and by rural citizens is documented. Methods of suicide differ in various age groups as well as by sex. Three age-group peaks are identified in the present series. Unemployment may have played a role in a desire for self-destruction in the younger age group, whereas retirement is perhaps an equally important factor in the elderly. Domestic or marital strife and depression were the major precipitating factors responsible for suicide.

REFERENCES

[1]Rhode Island Department of Health: **Provisional Vital Statistics, 1974.** Providence, State of Rhode Island and Providence Plantations, 1974

[2]Murphy GE: The physician's responsibility for suicide. I. An error of commission. **Ann Intern Med** 82:301-4, Mar 75

[3]Murphy GE: The physician's responsibility for suicide. 11, Errors of omission. **Ann Intern Med** 82: 305-9, Mar 75

[4]Rhode Island Department of Health: **State Medical Examiners Statistical Summaries, 1972-1973.** Providence, State of Rhode Island, 1973

[5]Lester D: Letter: The suicide capital of America. **JAMA** 228:1637, 24 Jun 74

[6]Editorial: Hope and despair in Providence: **RI Med J** 58:315, Jul 75

[7]Rhode Island Department of Health: **State Medical Examiner's Annual Report, 1974.** Providence, State of Rhode Island, 1974

[8]Spelman J: Suicide: A medical examiner's view: In **Legal Medicine Annual.** 1:163-84, 1969. Edited by C. H. Wecht. New Jersey, Appleton-Century-Croft, 1969

[9]Bakwin RM: Suicide in children and adolescents. **J Am Med Wom Assoc** 28:643 passim, Dec 73

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PUBLIC SERVICE AND ETHICS IN GOVERNMENT

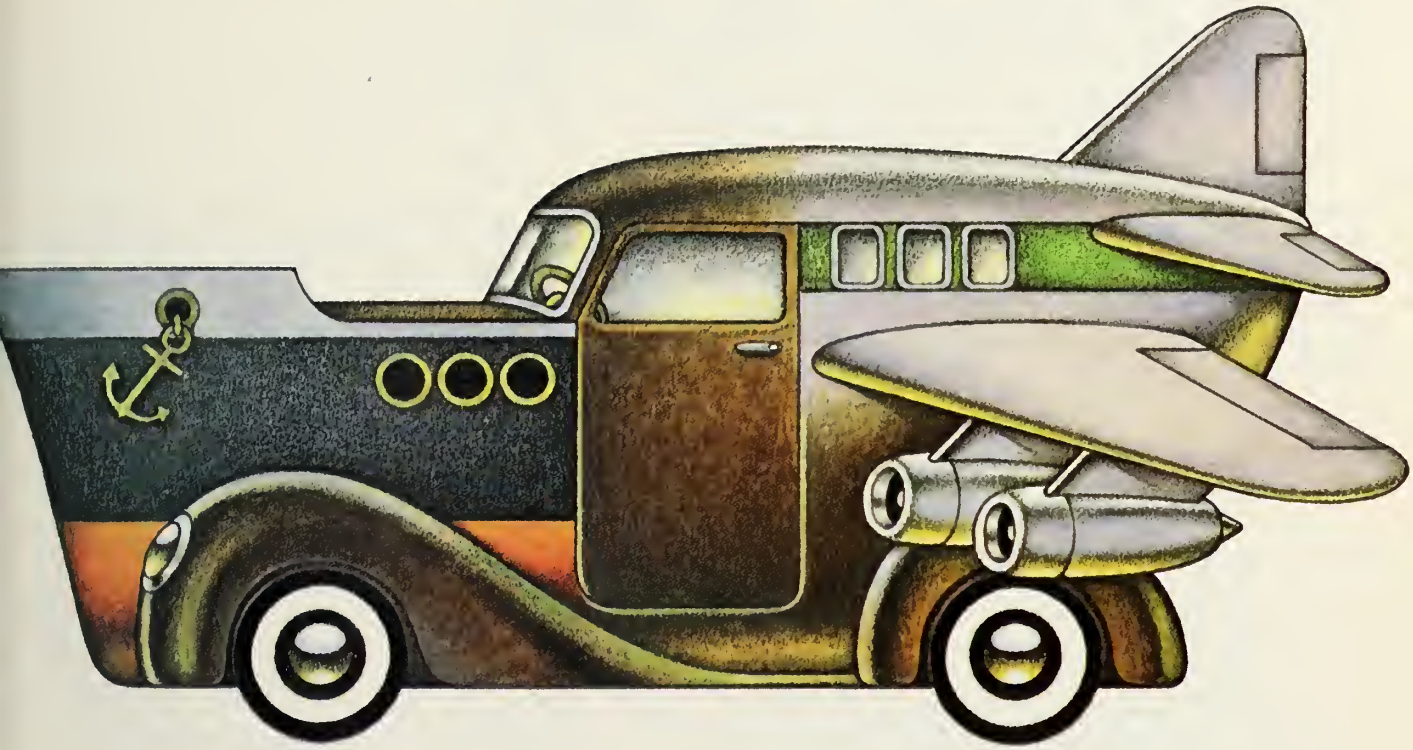
(Continued from page 377)

Brother is alert, that Uncle Sam cares, that government is watching.

When citizens lack internal controls government usually steps in and establishes careful external controls over citizens, and lets them know that if they violate them they will be publicly shamed and thrown into jail. Morality, then, becomes enforced from the outside rather than springing from the inside, from conscience. Freedom becomes thereby restricted.

Corruption in high places is not new. Moses admonished the judges of Israel not to be respecters of persons in judgment but to hear "the small as well as the great." He said, "A gift blindeth the wise and perverteth the words of the righteous." Later, the Lord, speaking through the prophet Micah, denounces the house of Israel because "the

(Continued on page 381)



On land, sea, and in the air...

Up to 24 hours of effective control with a single dose...in nausea, vomiting and dizziness associated with motion sickness.

Dosage: 25 to 50 mg. 1 hour before travel.

Available on prescription only.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25 Chewable Tablets
(meclizine HCl) 25 mg.
for motion sickness

DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE FOR LONG-TERM CONTROL OF HYPERTENSION*

Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

SK&F CO., Carolina, P.R. 00630
Subsidiary of SmithKline Corporation

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

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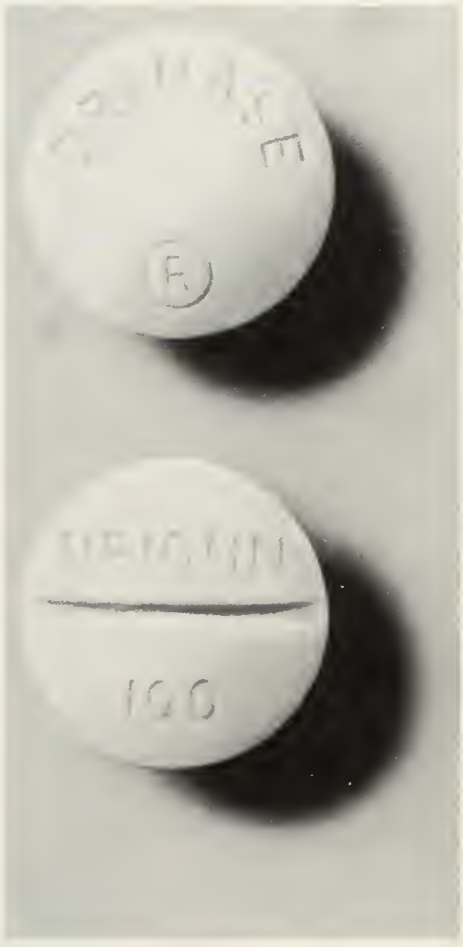
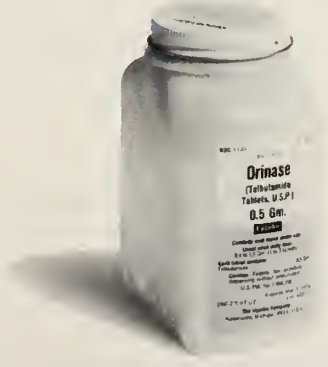


Orinase®

tolbutamide, Upjohn

0.5 Gm tablets



This new design will help pharmacists, physicians, nurses, and patients identify Orinase by name and manufacturer. The number on the tablet is for identification and is not related to tablet strength.

You may wish to advise your patients that this change is taking place.

J-5255-6

The Upjohn Company, Kalamazoo, Michigan 49001 **Upjohn**

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WHEN ANXIETY INTERFERES.

The cardiac patient and anxiety.

"The [cardiac] patient is anxious about minor symptoms, about the implications of his diagnosis, and about real or imagined limitations of function."*

The worst is over. The cardiac patient is out of the acute stage, out of the hospital, and well on his way to recovery. How quickly he comes back to near normal functioning may depend on his psychological as well as his physical rehabilitation.

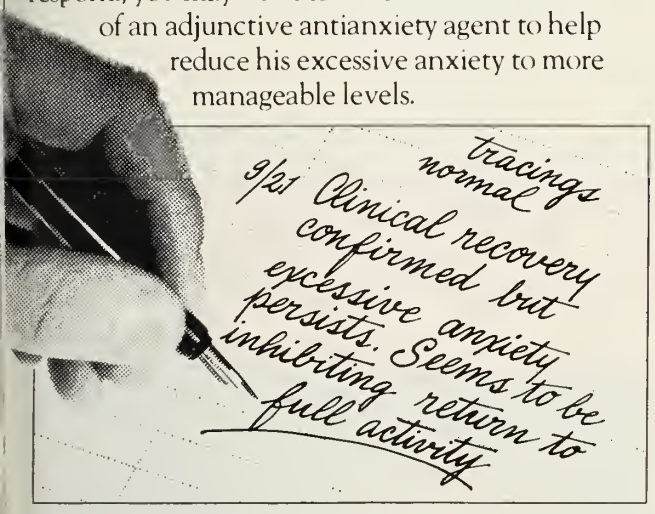
Clinical anxiety, for example, may be one reason for prolonged recuperation following cardiac healing. Yet anxiety can sometimes be beneficial in facilitating patient compliance.

The patient who is realistically concerned about resuming his precoronary functioning may be highly motivated to adhere to his rehabilitation regimen. However, the cardiac patient with *excessive* or unresolved anxiety may be so fearful of future heart failure that he refrains from your prescribed regimen. These excessively anxious cardiac patients eventually present the same clinical characteristics as patients deconditioned by bed rest.

Excessive anxiety can interfere with patient management

When excessive anxiety diminishes your

patient's ability to participate fully in his rehabilitation program, your counseling and reassurance are often sufficient. But when his anxiety is so great that it actually interferes with his ability to listen and respond, you may want to consider the addition of an adjunctive antianxiety agent to help reduce his excessive anxiety to more manageable levels.


tracings normal
9/21 Clinical recovery confirmed but excessive anxiety persists. Seems to be inhibiting return to full activity

Librium® (chlordiazepoxide HCl) an effective adjunct to your reassurance and counseling

Safety: Librium has a highly favorable benefits-to-risk ratio and a wide margin of safety. Because of its low incidence of side effects, it is regarded as one of the safest antianxiety agents available. And Librium does not adversely affect the cardiovascular system. See complete product information for warnings, precautions and adverse reactions.

Performance: Hundreds of clinical trials, thousands of published papers, and millions of patients comprise the record of performance for Librium.

Concomitant use: Of special significance in treating the cardiac patient already taking multiple agents is the fact that Librium is used concomitantly with most primary medications, such as cardiac glycosides, diuretics and antihypertensives.

*Zohman BL. *Geriatrics* 28 110-119, Feb 1973

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Supplied: Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

ROCHE

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THE ANXIETY-SPECIFIC

VISUAL FOCUS ON ACUTE GOUTY ARTHRITIS

Foot of patient with acute gouty arthritis as seen by conventional x-ray.

Scintiphotogram of same foot reflects inflammatory process.

The scintiphotograph on the right shows increased uptake of radiotechnetium polyphosphate in the metatarsophalangeal joint and the proximal interphalangeal joint of the great toe of a patient with acute gouty arthritis. This increased uptake probably results from increased vascularity in the affected areas.

For a more detailed description of scintiphotography, see "addendum" at right.

THERAPEUTIC FOCUS ON

CAPSULES, 25 mg and 50 mg

INDOCIN®

(INDOMETHACIN | MSD)

helps relieve pain and other symptoms of inflammation in acute gouty arthritis in selected patients

INDOCIN is a potent drug with anti-inflammatory, antipyretic, and analgesic properties. It should not be used in conditions other than those recommended. Although INDOCIN does not alter the progressive course of the underlying disease, in selected patients with acute gouty arthritis it has been found highly effective in relieving pain and in reducing fever, swelling, and tenderness.

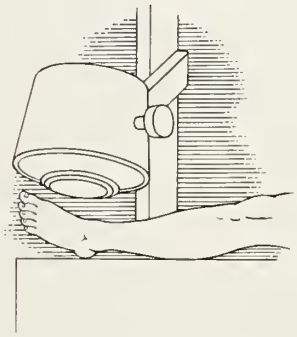
MSD
MERCK SHARP & DOHME

For a brief summary of prescribing information, please see following page.

addendum

MSD
MERCK SHARP & DOHME

Facts about Scintiphotography



In recent years a variety of radiopharmaceuticals have been employed to aid in the diagnosis of bone and joint disorders. The joint-imaging technique consists of injecting technetium polyphosphate intravenously, and imaging is performed with the scintillation camera two hours after the administration of the radionuclide. In general, for joint surveying, the shoulders, elbows, hands, wrists, knees, ankles, feet, and vertebral column are mapped. The entire scanning process takes approximately one hour. The criterion for a positive image is a higher concentration of radioactivity in a joint region than in adjacent nonarticular bone. In effect, each patient serves as his own control.

INDOCIN®
(INDOMETHACIN | MSD)

helps relieve pain
and other symptoms
of inflammation
in acute
gouty arthritis
in selected patients

IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended. The drug should not be prescribed for children because safe conditions for use have not been established.

Because of the high potency of the drug and the variability of its potential to cause adverse reactions, the following are strongly recommended: 1) the lowest possible effective dose for the individual patient should be prescribed. Increased dosage tends to increase adverse effects, particularly in doses over 150-200 mg per day, without corresponding clinical benefits; 2) careful instructions to, and observations of, the individual patient are essential to the prevention of serious and irreversible, including fatal, adverse reactions, especially in the aging patient.

Contraindications: Children 14 years of age and under, pregnant women and nursing mothers; active gastrointestinal lesions or history of recurrent gastrointestinal lesions; allergy to aspirin or indomethacin.

Warnings: *Gastrointestinal Effects:* Because of the occurrence and, at times, severity of gastrointestinal reactions, be continuously alert for any sign or symptom signaling a possible gastrointestinal reaction. The risks of continuing therapy with INDOCIN in the face of such symptoms must be weighed against the possible benefits to the individual patient. Gastrointestinal effects may be reduced by giving the drug immediately after meals, with food, or with antacids. Use greater care in aging patients.

Ocular Effects: Corneal deposits and retinal disturbances, including those of the macula, have been observed in some patients on prolonged therapy. Discontinue therapy if such changes are observed. Ophthalmologic examination at periodic intervals is desirable in patients on prolonged therapy.

Central Nervous System Effects: INDOCIN may aggravate psychiatric disturbances, epilepsy, and parkinsonism, and should be used with considerable caution in patients with these conditions. If severe CNS adverse reactions develop, discontinue the drug.

Precautions: Blurred vision may be a significant symptom that warrants a thorough ophthalmologic examination. Patients should be cautioned about engaging in activities requiring mental alertness and motor coordination, as driving a car. Headache which persists despite dosage reduction requires complete cessation of the drug. May mask the usual signs and symptoms of infection; therefore, the physician must be continually on the alert for this and should use the drug with extra care in the presence of existing controlled infection. After the acute phase of the disease is under control, an attempt to reduce the daily dose should be made repeatedly until the patient is off entirely.

Drug Interactions: Although INDOCIN has not influenced the hypoprothrombinemia produced by anticoagulants, patients on anticoagulant therapy should be observed closely for alterations in prothrombin time. In patients receiving probenecid, plasma levels of indomethacin are likely to be increased and a lower total daily dose of INDOCIN may produce a therapeutic effect; increases in the dose of INDOCIN should be made cautiously and in small increments.

Adverse Reactions: *Gastrointestinal Reactions:* Single or multiple ulcerations of the esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage, with fatalities in some instances; rarely, intestinal ulceration has been associated with stenosis and obstruction; gastrointestinal bleeding without obvious ulcer formation; perforation of preexisting sigmoid lesions (diverticulum, carcinoma, etc.); rarely, increased abdominal pain in ulcerative colitis patients or development of ulcerative colitis and regional ileitis; gastritis may persist after the cessation of the drug; nausea, vomiting, anorexia, epigastric distress, abdominal pain, and diarrhea.

Eye Reactions: Corneal deposits and retinal disturbances, including those of the macula, have been observed on prolonged therapy; blurring of vision.

Hepatic Reactions: Rarely, toxic hepatitis and jaundice, including some fatal cases.

Hematologic Reactions: Aplastic anemia, hemolytic anemia, bone marrow depression, agranulocytosis, leukopenia, and thrombocytopenic purpura may occur rarely. Since some patients manifest anemia secondary to obvious or occult gastrointestinal bleeding, appropriate blood determinations are recommended.

Hypersensitivity Reactions: Acute respiratory distress, a rapid fall in blood pressure resembling a shock-like state, angioedema, dyspnea, asthma, angiitis, pruritus, urticaria, skin rashes, purpura.

Ear Reactions: Hearing disturbances—deafness reported rarely; tinnitus.

Central Nervous System Reactions: Psychic disturbances including psychotic episodes, depersonalization, depression, and mental confusion; coma; convulsions; peripheral neuropathy; drowsiness; lightheadedness; dizziness; syncope; headache.

Cardiovascular-Renal Reactions: Edema, elevation of blood pressure, hematuria.

Dermatologic Reactions: Loss of hair, erythema nodosum.

Miscellaneous: Rarely, vaginal bleeding, hyperglycemia, glycosuria, ulcerative stomatitis, and epistaxis.

Supplied: Capsules containing 25 mg indomethacin each, in single-unit packages of 100 and bottles of 100 and 1000; capsules containing 50 mg indomethacin each, in single-unit packages of 100 and bottles of 100.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

MSD MERCK SHARP & DOHME

heads thereof judge for reward, and the priests thereof teach for hire, and the prophets thereof divine for money." But corruption in government, wherever found — in higher or lower echelons — discourages youth from seeking jobs in public service.

History has shown that a nation will preserve those virtues and values that it honors. The individual likewise preserves and honors the values to which he is committed. If you enter government service, you will have the privilege of helping to shape and mold the policy and destiny of the state and nation. According to the extent of the authority of your office, you will thereby be afforded the opportunity of putting into effect your own sense of values, of influencing the moral tone of government, of forming the mind and will of the people.

Emerson has said that what we are speaks louder than what we say. This thought has special meaning in public office, for it is true that we leave the imprint of what we are upon everything we do. Government can only preserve the values and virtues that we honor. Just as the honest businessman can no more justify cheating by saying: "This is business," the honest government employee, regardless of the scope of his responsibility, cannot deprive the government of honest ethical service, simply by saying, "This is the inevitable way our government works." If the moral level of public service is low, there is an obligation on the part of every government official to transform it by eliminating whatever pushes man toward evil and by doing away with those conditions which encourage or make it easier for him to respond by actions which are morally objectionable and wrong.

When one is trying to encourage people to enter government service, there is a tendency to speak more frequently about the prestige and rewards which may be attached to the office rather than its inherent burdens and

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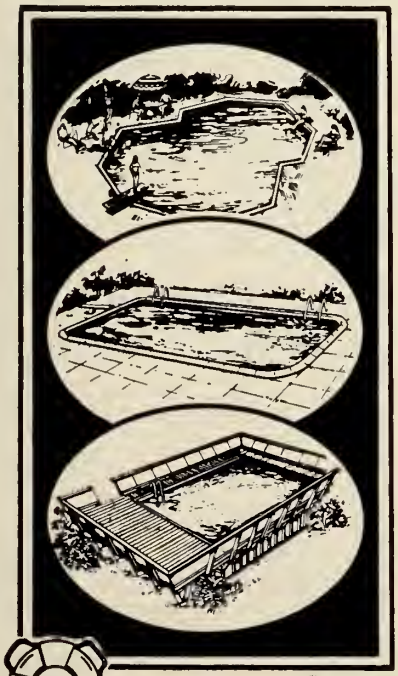

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Lakeside has built thousands of pools, in-ground and above ground. We're swimming pool craftsmen with a solid reputation for the highest standards of design, construction and accessory equipment. We invite you to compare our pools, both in-ground and above ground. Dollar for dollar, a Lakeside pool is your best buy. Call or visit us before you make a decision on a pool.

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responsibilities. The responsibility aspects of public office should remind the student of history of the remarks of Claudius, a great Roman Emperor, who in appointing public officials would say: "Do not thank me, for I do you no favor but call upon you to share with me the burdens of government, and it is I who thank you, if you fulfill your duty well." Claudius thereby gave clear expression to the thought, and, indeed, to the ideal that public office is not merely an honor to be cherished, but a trust to be faithfully discharged. May you think of government service in this fashion.

⚓ ⚓ ⚓

THREE SENTENCE ESSAY

Legislation is written by Ivy League lawyers in their 20s. They are brilliant, talented, and ignorant of the subject. When they become knowledgeable, they tend to leave Washington.

. . . **Richard S. Wilbur, M.D.,** Senior Vice President of Medical Affairs, Baxter Labs, Inc.

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(Continued on page 384)

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ONE SENTENCE ESSAY

Performance will determine our image not a flurry of news releases or brochures.

. . . **Doctor Eugene Sibery,** Executive Vice President, Blue Cross Association

⚓ ⚓ ⚓

Rhode Island Medical Journal

September, 1976 Vol. 59, No. 9

SWINE FLU PROGRAM
Pages 389 & 401

Both often

Predominant psychoneurotic anxiety

Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

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in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

SEPTEMBER, 1976 VOLUME 59, No. 9

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RHODE ISLAND MEDICAL JOURNAL is owned and published monthly by the Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903. Single copies 50 cents — Subscription $5.00 per year (Members of the R. I. Medical Society, $2.00 Annually). Second Class postage at Providence Rhode Island. Copyright, The Rhode Island Medical Society 1976.

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CONTINUING MEDICAL EDUCATION CALENDAR

OCTOBER

6 "CHALLENGE OF THE NEXT DECADE" — Rhode Island Hospital Child Development Center 10th Anniversary. Program, 8:30 a.m. to 4:00 p.m., George Auditorium, Rhode Island Hospital; Open House, 4:00 p.m. to 6:00 p.m., Child Development Center. For information, contact Dr. Siegfried Pueschel, Rhode Island Hospital.

6 "ANTIBIOTICS" — Francis L. Garrity, Ph.D., Assistant Professor of Laboratory Medicine, Brown University; Department of Nuclear Medicine, Rhode Island Hospital. Rhode Island Hospital Basic Science Lecture Series, 1:00 p.m., 7th floor conference room, A.P.C., Rhode Island Hospital.

7 PERSPECTIVES ON RAPE. "Overview of the Activities of the National Center," Elizabeth Kutzke, Acting Chief for the National Center for the Prevention and Control of Rape, National Institute of Mental Health. Butler Hospital 1976 Fall Grand Rounds, 4:00 p.m. to 6:00 p.m., Butler Hospital. A $2.00 fee for each lecture will be payable at the door. For information, contact Butler Hospital.

13 "VENTILATION THERAPY," Sidney Braman, M.D., Assistant Professor of Medicine, Brown University; Director of Ventilation Therapy, Rhode Island Hospital. Rhode Island Hospital Basic Science Lecture Series; See October 6 listing for time and place.

14 PERSPECTIVES ON RAPE. "The Rapist: Descriptive and Dynamic Factors," Murray L. Cohen, Ph.D., Professor of Psychology and Director, Clinical Psychology Training Program, Boston University; Senior Psychologist, Massachusetts Division of Legal Medicine. "Psychological Impact of Rape on the Victim," Linda Lytle Holmstrom, Ph.D., Associate Professor of Sociology, Boston College. See October 7 listing for additional information.

15 "INFLUENZAE IN CHILDREN," Brown University Section of Reproductive and Developmental Medicine Combined Pediatric Teaching Rounds. George Miller, M.D., Professor of Pediatrics and Epidemiology, Yale University School of Medicine; 10:30 a.m. to 12:00 p.m., Kay Auditorium, Roger Williams General Hospital. For information, contact Dr. Mary Arnold, Roger Williams General Hospital.

20 "GRAM STAIN AND CHOICE OF ANTIBIOTICS," Stephen Zinner, M.D., Associate Professor of Medical Science, Brown University; Head of Division-Infectious Diseases, Roger Williams General Hospital. Rhode Island Hospital Basic Science Lecture Series. See October 6 listing for time and place.

21 "PRESENTING SYNDROMES OF AFFECTIVE DISORDERS," Patricia Wolf, M.D., Clinical Assistant Professor of Psychiatry, Brown University, and Demmie Mayfield, M.D., Professor of Psychiatry, Brown University; Chief Psychiatrist, Veterans Administration Hospital. Butler Hospital Staff Association Monthly Meeting, Ruggles Room, Butler Hospital, 8:00 p.m. to 10:00 p.m. For information, contact Dr. Wilma Rosen, Butler Hospital.

21 PERSPECTIVES ON RAPE. "The Assessment of Rapists," Gene G. Abel, M.D., Professor of Psychiatry, University of Tennessee Medical School. See October 7 listing.

22 "THE SCHISTOSOME EGG AND I: The immunopathogenisis of schistosomiasis from the clinical to the molecular level," the 14th Annual Charles A. Stewart Memorial Lecture of the Brown University Division of Biology and Medicine. Dr. Kenneth S. Warren, Director, Division of Geographic Medicine, Case Western Reserve University. 4:30 p.m., Room 166, Barus Holley Building, 184 Hope Street, Providence.

27 "THE PREGNANT DIABETIC AND HER OFFSPRING." A symposium of the Clinical Diabetes Association of Rhode Island. Topics will include: "The Juvenile Diabetic — Management and Complications," Donna Younger, M.D., Assistant Clinical Professor of Medicine, Harvard Medical School; "Diabetes in Pregnancy," Karlis Adamsons, M.D., Ph.D., Professor and Chairman of Obstetrics and Gynecology, Brown University; "Pathophysiology of the Infant of the Diabetic Mother," Robert Schwartz, M.D., Professor of Pediatrics, Brown University; and "Management of the Infant of the Diabetic Mother," William Oh, M.D., Professor of Pediatrics and Obstetrics, Brown University. Other participants will be Mary Arnold, M.D., Associate Professor of Pediatrics, Charles Kahn, M.D., Clinical Assistant Professor of Medicine, Leo Stern, M.D., Professor and Chairman of Pediatrics, Brown University Program in Medicine. 9:00 a.m. to 12:30 p.m., Women and Infants Hospital. For information, contact Dr. Arnold, Women and Infants Hospital.

28 PERSPECTIVES ON RAPE. "The Treatment of Rapists," William L. Marshall, Ph.D., Associate Professor, Queen's University, Kingston, Ontario, Canada. See October 7 listing.

29-30 THE BRADLEY FORUM: THE CHANGING DEFINITIONS OF THE CHILD. Bradley Hospital 45th Anniversary Program. "Changing Scientific Definitions of the Nature of Childhood," Peter Wolff, M.D., Professor of Psychiatry, Harvard Medical School and Director of Research, Department of Psychiatry, Boston Childrens Hospital; "Human Infancy and Bio-cultural Unity," Daniel G. Freidman, Ph.D., Associate Professor, Human Development, Institute of Human Development, University of Chicago; and "Thought and Childhood:

Cross-Cultural Perspectives," Douglas R. Price-Williams, Ph.D., Professor of Psychiatry and Anthropology, University of Chicago. Panel discussions and workshops are also planned. The Colonial Hilton Inn, Cranston, 8:30 a.m. to 5:00 p.m. on the 29th, 9:30 a.m. to 12:00 p.m. on the 30th. For information, contact Bradley Hospital.

NOVEMBER

3 "INFECTIONS IN THE OBSTETRIC AND GYNECOLOGIC PATIENT." Topics will include: "Anaerobic Infections," Sherwood L. Gorback, M.D., Professor of Medicine, Division of Infectious Diseases, Tufts University School of Medicine, "Antimicrobial Agents," John G. Bartlett, M.D., Associate Professor of Medicine, Division of Infectious Diseases and Internal Medicine, Tufts University School of Medicine; "History of Shock in the Infected Patient," Fiorindo Simeone, M.D., Professor Emeritus of Medical Science, Brown University Program in Medicine. Also, "Pathophysiology of Shock and Pulmonary Failure in the Infected Patient," Carl Teplitz, M.D., Associate Professor of Medical Science, Brown University; "Management of Shock Associated with Infection," Watts R. Webb, M.D., Professor and Chairman, Department of Surgery, State University of New York, Upstate Medical Center; "General Considerations of the Fetus as the Recipient of Antimicrobial Agents," Karlis Adamsons, M.D., Ph.D., Professor and Chairman of Obstetrics and Gynecology, Brown University. Cranston Hilton Inn, 9:00 a.m. For information, contact Dr. Bertram Buxton, Women and Infants Hospital.

3 JOHN F. KENNEY RESEARCH DAY, Annual Program of the Memorial Hospital Medical Staff. Futher information will be forthcoming.

4 PERSPECTIVES ON RAPE. "Child Sexual Assault: Victim and Offender," Ann Wolbert Burgess, R.N., D.N.Sc., Professor and Coordinator, Graduate Program in Community Health Nursing, Boston College; and A. Nicholas Groth, Ph.D., Boston College, former Chief Psychologist at the Massachusetts Center for the Diagnosis and Treatment of Sexually Dangerous Persons. See October 7 listing.

10 ALLENDALE BURNS SYMPOSIUM presented by Brown University Office of Continuing Medical Education; Section of Pathology, sub-section in Forensic Medicine; and Section of Surgery. Further information will be forthcoming.

11 PERSPECTIVES ON RAPE. "Rhode Island Rape Law: Legal Problems for the Victim," Judith Romney Wegner, Special Assistant Attorney General, State of Rhode Island. "Rhode Island Rape Law: Legal Problems for the Accused," Stephen J. Fortunato, Jr., J.D., Attorney, McKinnon and Fortunato. See October 7 listing.

12 "IS THE STUDY OF RARE DISEASE RELEVANT?" Dr. Alfred M. Bongiovanni Professor of Pediatrics, University of Pennsylvania. Combined Pediatric Teaching Rounds, Brown University Section of Reproductive and Developmental Medicine and Roger Williams General Hospital, 10:30 a.m. to 12:00 p.m., Kay Auditorium, Roger Williams General Hospital. Further information will be forthcoming.

13 "MEDICAL TREATMENT OF CUSHING'S DISEASE," James C. Melby, M.D., Professor of Medicine, Boston University Medical School, and Head, Section of Endocrinology and Metabolism, University Hospital, Boston. George Auditorium, Rhode Island Hospital, 10:00 a.m. to 12:00 p.m., following informal rounds at 9:00 a.m. Further information will be available from the Hospital.

17 "THROMBOSIS, EMBOLISM AND COAGULATION," William Corvese, M.D., Clinical Assistant Professor of Surgery, Brown University. Rhode Island Hospital Basic Science Lecture Series. See October 6 listing.

18 "SYMPOSIUM ON HOSPITAL ASSOCIATED INFECTIONS," sponsored by the New England Association for Practitioners in Infection Control. The Cranston Hilton Inn, Cranston. Further information will be forthcoming.

20 "TRENDS IN AMBULATORY SURGERY," Annual Symposium of the Brown University Section of Surgery and Rhode Island Chapter, American College of Surgeons. "CHANGE IN REPAIR OF GROIN HERNIA," J. Robert Burns, M.D.; "THE FREE STANDING AMBULATORY SURGERY UNIT," Paul J. M. Healey, M.D.; "ONE YEAR'S EXPERIENCE AT A COMMUNITY BASED ACCIDENT UNIT," Robert J. Botts, M.D.,; and "POTENTIAL COST SAVINGS WITH FULL UTILIZATION OF AMBULATORY SURGERY," Preston Jordan, Rhode Island Blue Cross. A panel of the speakers and Dr. Joseph E. Cannon of the Rhode Island Department of Health will also be included. 9:00 a.m., George Auditorium, Rhode Island Hospital. Further intormation will soon be available.

23 "PURPURA: IT'S CAUSES AND TREATMENTS," Dr. Philip Lanzkowsky, Professor of Pediatrics, School of Medicine, State University of New York at Stony Brook. George Auditorium, 10:00 a.m. to 12:00 p.m. Further information is forthcoming.

24 "OSTEOPOROSIS, GOUT AND CRYSTAL DISEASE," Stephen R. Kaplan, M.D., Associate Professor of Medicine, Brown University Program in Medicine. Rhode Island Hospital Basic Science Lecture Series. See October 6 listing.

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A Message from the Dean

RHODE ISLAND STUDENTS APPLYING TO U.S. MEDICAL SCHOOLS: A RECORD OF THE PAST SEVEN YEARS

About two years ago (see **Rhode Island Medical Journal,** page 445, November, 1974) we summarized the rates of admission of Rhode Island residents applying to the United States medical schools. A significant improvement in the relative acceptance rate of Rhode Island applicants to U.S. medical schools was noted at that time. Rhode Island had ranked as the 49th state in terms of percentage of accepted applicants in 1970, the 40th state in 1973, and the 28th state in 1974. Based upon data provided by the Association of American Medical Colleges as well as the American Medical Association, Division of Medical Education, a similar analysis was undertaken for each year of this decade (1970-76).

Table I outlines the rates of acceptance to U.S. medical schools (according to New England states) for the classes beginning in September of 1976. Somewhat fewer numbers of Rhode Island students applied this year to medical schools per 100,000 population (15.2) when compared to the New England average (17.2) or the United States average (18.8). The rate of acceptance for Rhode Islanders, however, was higher than most states in New England and indeed was exceeded only by Vermont. The percentage of Rhode Island applicants accepted to a U.S. medical school in 1976 (36.8 per cent) was higher than the New England average (30.8 per cent) or the national average (33.3 per cent).

(Continued on next page)

Table I
RATES OF ACCEPTANCE TO U.S. MEDICAL SCHOOLS FOR CLASS BEGINNING IN SEPTEMBER, 1976

Applicants from	No. of U.S. Med. School Applicants per 100,000 population	No. of State Residents accepted to any U.S. Med. School	Rates of Acceptance Percentage of applicants	Rates of Acceptance Per 100,000 population
Rhode Island	15.2	53	36.8%	5.6
Massachusetts	18.9	314	29.3	5.4
Maine	9.3	36	39.1	3.6
Vermont	19.1	44	51.8	9.9
New Hampshire	7.6	15	26.8	2.0
Connecticut	19.2	163	28.0	5.4
New England Total	17.2	625	30.8	5.3
U.S.A. Total	18.8	15,700	33.3	7.3

Table II
ACCEPTANCES TO U.S. MEDICAL SCHOOLS
(CLASS BEGINNING SEPTEMBER, 1976)
PER 100,000 POPULATION

	Acceptances per 100,000 population							
Applicants from	1970	1971	1972	1973	1974	1975	1976	Percent change 1970-1976
Rhode Island	2.6	3.2	4.0	4.1	4.1	4.5	5.6	+154%
Massachusetts	4.9	5.2	5.0	5.2	5.3	5.8	5.4	+ 10%
Maine	3.0	1.9	2.0	2.5	2.7	4.1	3.6	+ 20%
Vermont	7.0	10.3	8.5	7.2	9.2	8.3	9.9	+ 41%
New Hampshire	2.0	3.0	2.4	3.3	3.3	3.9	2.0	0%
Connecticut	4.9	5.1	5.0	6.7	6.5	6.5	5.4	+ 10%
New England Total	4.5	4.8	4.6	5.2	5.3	5.7	5.3	+ 18%
U.S.A. Total	5.6	6.0	6.6	6.8	6.9	7.1	7.3	+ 30%

Table II portrays the rates of acceptance per 100,000 population in each of the New England states from 1970 to 1976. Rhode Island is unique in showing the greatest percentage improvement in placing its young men and women in U.S. medical schools. While the national increase from 1970 to 1976 was 30 per cent and the New England increase was 18 per cent, Rhode Island showed a 154 per cent increase in acceptance rates between 1970 and 1976. On a national level, the State of Rhode Island is now the 23rd state in terms of relative rates of acceptance to American medical schools. Thus, there has been a substantial and steady improvement in this rate since 1970, when Rhode Island was ranked as the 49th state.

Which medical schools have accepted our Rhode Island students? With the exception of Brown University and the University of Vermont, no particular school has admitted more than a few. The total number of Rhode Island students accepted in the first year classes of U.S. medical schools has risen progressively from 25 in 1970 to 53 in 1976. The numbers of acceptances to U.S. schools (other than the University of Vermont and Brown) have varied between 16 and 28 per year, averaging 21 per year, and no significant trend in either direction seems apparent from these figures. Similarly, the number of students attending the University of Vermont (through an agreement between the states of Vermont and Rhode Island) has been stabilized at about five per year. The number of students attending the medical school at Brown University, however, has accounted for the substantial majority of the rise from 25 (1970) to 53 (1976). This year, for example, 50 per cent of the freshman medical school class at Brown will be composed of Rhode Island residents. Indeed, of the 53 Rhode Islanders beginning their medical education in U.S. medical schools this September, 30 (57 per cent) will be

(Continued on page 390)

Table III
RHODE ISLAND RESIDENTS ADMITTED TO ANY U.S. MEDICAL SCHOOL
(1970-1976)

	Year						
Admitted to:	1970	1971	1972	1973	1974	1975	1976
Brown University	4	5	4	11	16	13	30
University of Vermont	5	7	6	3	5	6	5
Others	16	18	28	25	18	24	18
Total	25	30	38	39	39	43	53

Table IV
MEDICAL COLLEGE ADMISSION TEST RESULTS, BY STATE FOR CLASS BEGINNING IN SEPTEMBER, 1976

	TOTAL APPLICANTS					ACCEPTED APPLICANTS				
	Verbal	Quant	Gen. Info.	Sci.	Total	Verbal	Quant	Gen. Info.	Sci.	Total
Rhode Island	565	611	537	583	2296	590	646	551	616	2403
Massachusetts	566	607	543	587	2303	604	654	570	630	2458
Maine	552	587	540	571	2250	575	621	553	610	2359
Vermont	547	587	535	576	2245	554	602	541	596	2293
New Hampshire	572	604	546	590	2312	604	622	582	626	2439
Connecticut	568	606	550	589	2313	605	665	572	640	2482
U.S.A Total	542	593	529	575	2239	574	635	550	619	2378

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Riboflavin (Vitamin B_2)	15 mg
Pyridoxine HCl (Vitamin B_6)	5 mg
Niacinamide	100 mg
Calcium pantothenate	20 mg
Cyanocobalamin (Vitamin B_{12})	5 mcg
Folic acid	0.5 mg
Ascorbic acid (Vitamin C)	500 mg

Indications: Nutritional supplementation in conditions in which water-soluble vitamins are required prophylactically or therapeutically.

Warning: Not intended for treatment of pernicious anemia or other primary or secondary anemias. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with pernicious anemia who receive more than 0.1 mg of folic acid per day and who are inadequately treated with vitamin B_{12}.

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President's Page

1976 INFLUENZA IMMUNIZATION IN R. I.

By Herbert F. Hager, M.D.

Vaccines and the use of vaccines for immunization against disease has from the time of Edward Jenner been a subject of controversy and debate. This certainly is again true in 1976 with the advent of the National Influenza Immunization Program. The program is designed to protect the American people from the threat of a swine influenza A/New Jersey 76 epidemic and also protect the high risk patient and the elderly from A/Victoria 75 infection.

The rationale for the massive program is not based on the numbers of reported cases caused by the A/New Jersey 76 virus, for there were only 12 cases positively identified. It is promulgated because the general population has no specific antibodies to provide immunity against that disease. In a non-immune population a serious epidemic is always a possibility.

The Rhode Island Medical Society and the medical profession generally endorse the goal of the program. The vaccine must be readily available to those desiring it. Physicians are urged to provide the vaccine at nominal cost in their offices during the months of November, December, and January and in the traditional spirit of public service to lend their support on an individual and volunteer basis to the public immunization clinics.

The Rhode Island State Law (23-8-2) provides that all individuals or public or private agencies participating in the authorized voluntary mass immunization program shall not be liable to any person who experiences or purports to experience adverse effects provided however that informed consent be obtained.

The Federal Law (PL 94-380) is effective until August 1, 1977. It provides that any claim arising under the inoculation program would be made directly against the United States rather than any medical or health personnel who provide or assist in the inoculations without charge and is in compliance with the informed consent form.

A program participant would be required to cooperate with the United States in the defense of a claim or the United States District Court could substitute such participant as the defendant in place of the United States. Should payment be made by the United States to any claimant, the United States would have the right to recover that portion of the damages so awarded or paid resulting from the failure of the participant to carry out contractual obligations or responsibilities under the program or attributable to negligent conduct on the part of the participant.

In a physician's own practice setting his own malpractice insurance would be in effect. While informed consent forms are not required by the insurance companies, one would be wise to obtain them and to keep them on file. The forms will be provided by the government.

Two A/New Jersey 76 vaccines will be

(Continued on next page)

available through the Rhode Island Department of Health. One vaccine is bivalent (A/Victoria 75 combined with A/New Jersey 76) and is intended only of the high risk group composed of the elderly and chronically ill. The second is a monovalent (A/New Jersey 76) preparation for the general population of 18 to 59 years of age.

The Armed Forces Epidemiological Board recommended that the whole-virus vaccines produced by two firms were preferable in younger people (i.e. military age) because they produced better immunity in people under 25 years of age, although there were also slightly higher rates of mild reactions than with the use of split-virus vaccines. The board also recommended that for the military a second dose of B/Hong Kong vaccine be administered.

Monovalent influenza B/Hong Kong vaccine will be available through the usual commercial channels for high-risk groups for whom influenza vaccination is regularly recommended.

MESSAGE FROM THE DEAN

(Continued from page 388)

matriculating at Brown University. An estimated 40 per cent of all Rhode Islanders in attendance in United States medical schools will be students at Brown University (70 of 174). If this pattern prevails in future years, it is safe to predict that the Brown University Medical School will be the source of an increasing fraction of our practicing physicians in this state.

The 1974 report also summarized the Medical College Admissions Test (MCAT) results for applicants (accepted and unaccepted) from the various New England states. This test is designed to assess verbal ability, quantitative skills, general information, and scientific knowledge. Table IV gives in tabular form the test results by state for the classes beginning in September of 1976.

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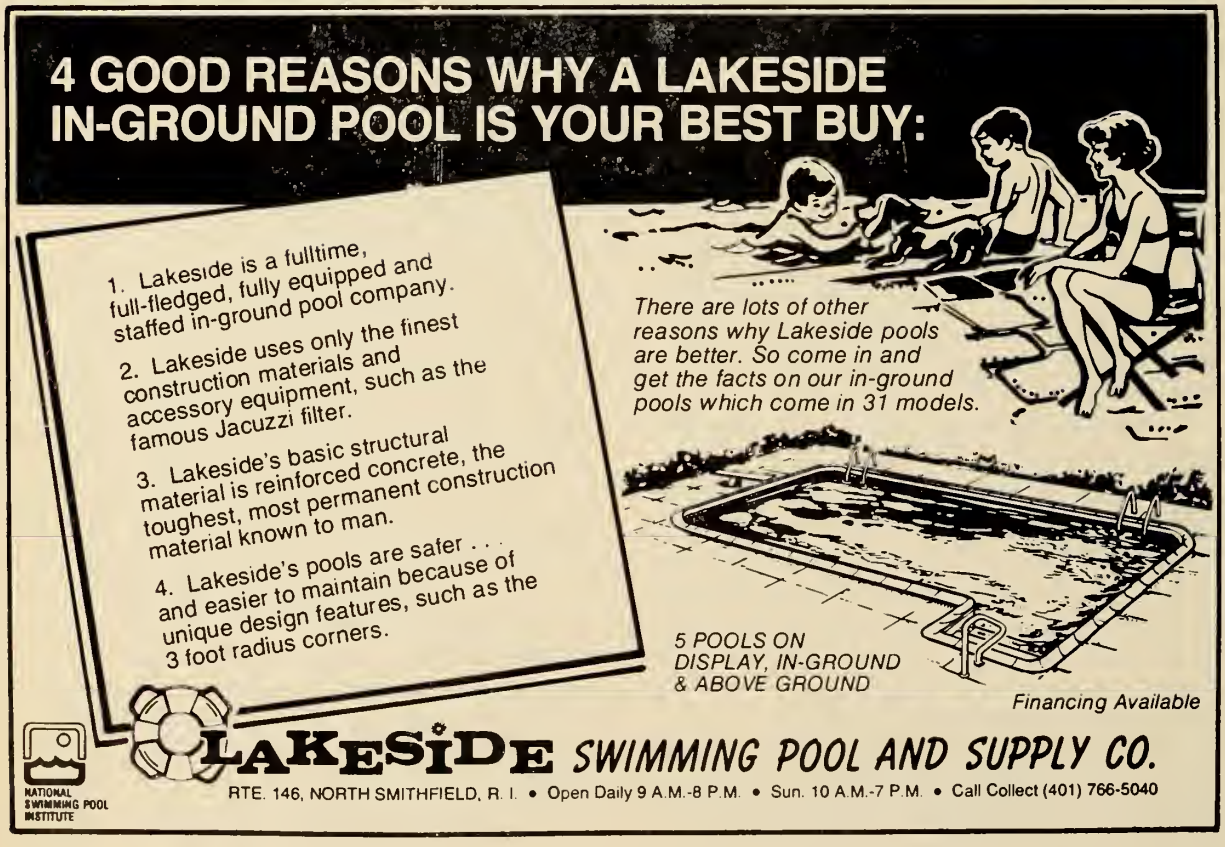
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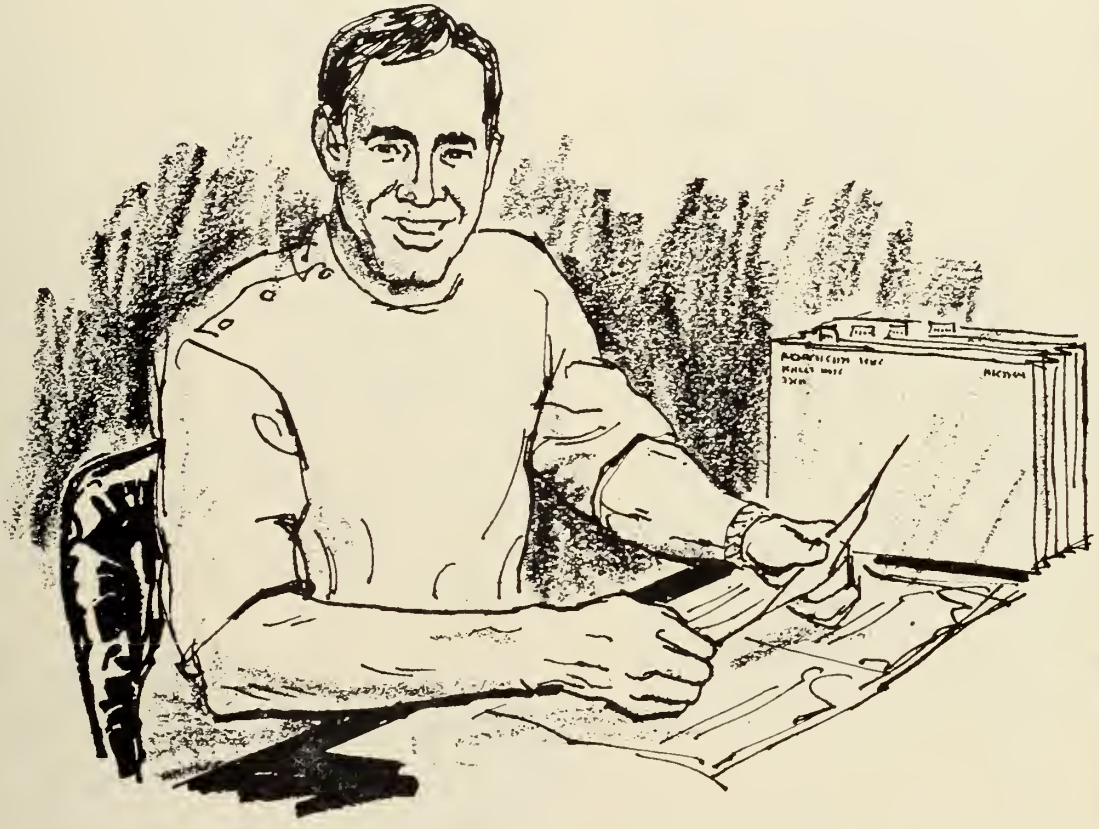

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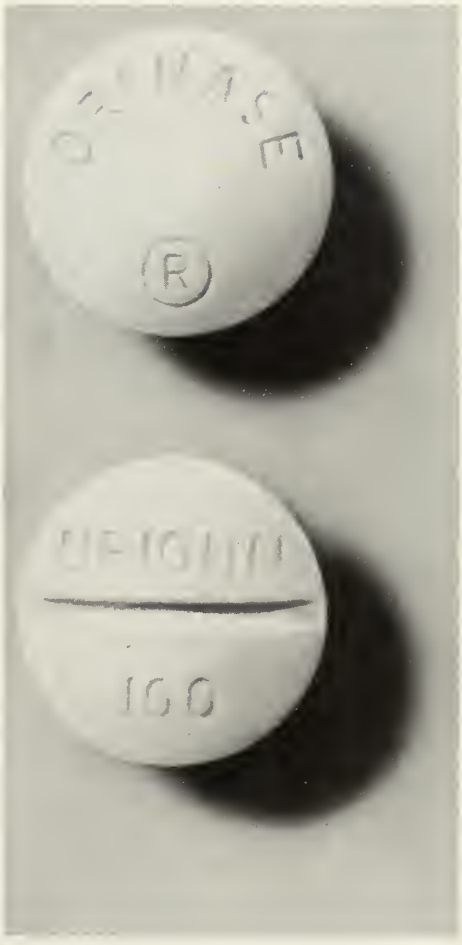

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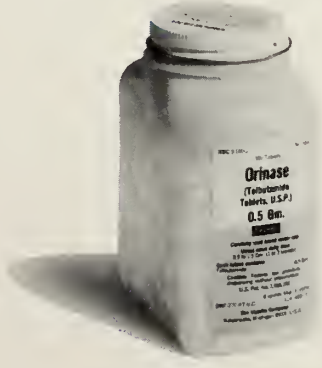

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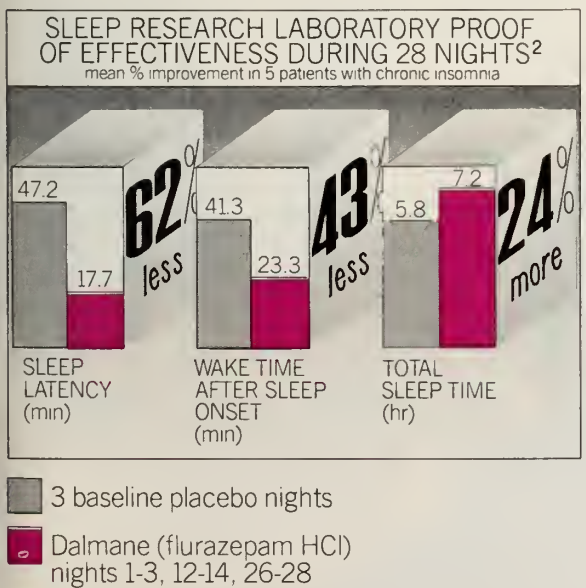
Continued relief of insomnia in patients with chronic insomnia

Since insomnia is often transient and intermittent, the prolonged administration of a hypnotic is generally not necessary or recommended. But when insomnia is a chronic or recurring problem, continued effectiveness is as important as initial effectiveness. Results of a recently published sleep research laboratory study[1] demonstrated that, while pentobarbital lost effectiveness within two weeks, Dalmane maintained effectiveness for 28 consecutive nights. Similar 28-night results with Dalmane, displayed below, were obtained by a second sleep research group.[2] In previous studies,[3] both chloral hydrate and glutethimide began to lose effectiveness after several nights, while Dalmane maintained effectiveness throughout the 14 medication nights. Whether the problem is difficulty falling asleep, staying asleep or sleeping long enough, consider these results when selecting a sleep medication.



Patient benefits include relative safety, infrequent morning "hang-over"

Dalmane is well tolerated, seldom causing morning drowsiness or grogginess.[4] No increase in dosage is required for continued effectiveness from night to night.[1-3] Should Dalmane be used repeatedly, periodic blood counts and liver and kidney function tests should be performed. The usual adult dose is 30 mg *h.s.*, but 15 mg may suffice for some patients and is recommended as a starting dose for the elderly and debilitated to help preclude oversedation, dizziness or ataxia.

Continued relief of insomnia: One more good reason to specify

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One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

whenever a hypnotic is needed

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Please see following page for a summary of product information.

New objective proof: continued insomnia relief without increasing dosage...[1,2]

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Objectively proved in the sleep research laboratory...

during 28 consecutive nights of administration:

- ☐ **effectiveness with a single 30-mg *h.s.* dose, maintained**
- ☐ **rapid sleep induction, maintained**
- ☐ **sleep for 7 to 8 hours, on average, maintained**
- ☐ **less time awake during the night, maintained**

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

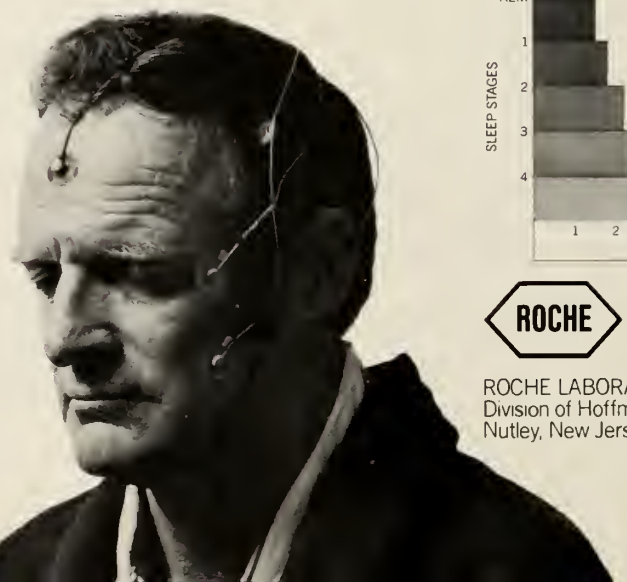
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum benefic effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



REFERENCES:

1. Kales A, *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975
2. Dement WC, *et al*: Long-term effectiveness of flurazepam 30 mg *h.s.* on chronic insomniacs. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, Jun 30-Jul 4, 1975
3. Kales A, *et al*: *Arch Gen Psychiatry 23*:226-232, Sep 1970
4. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

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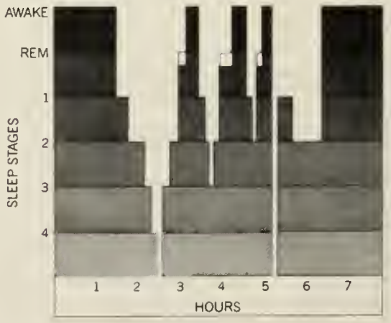

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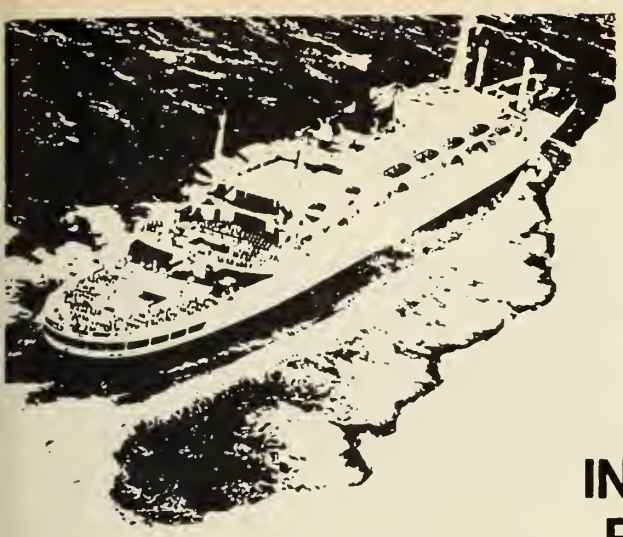

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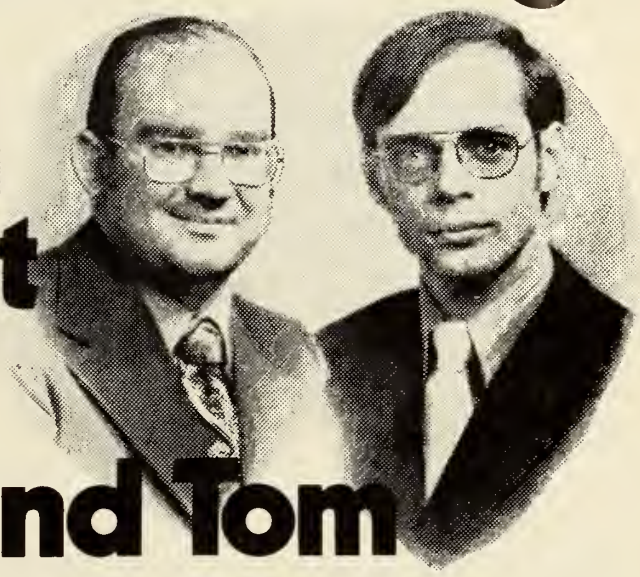

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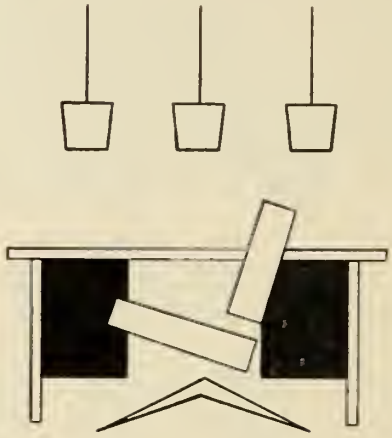

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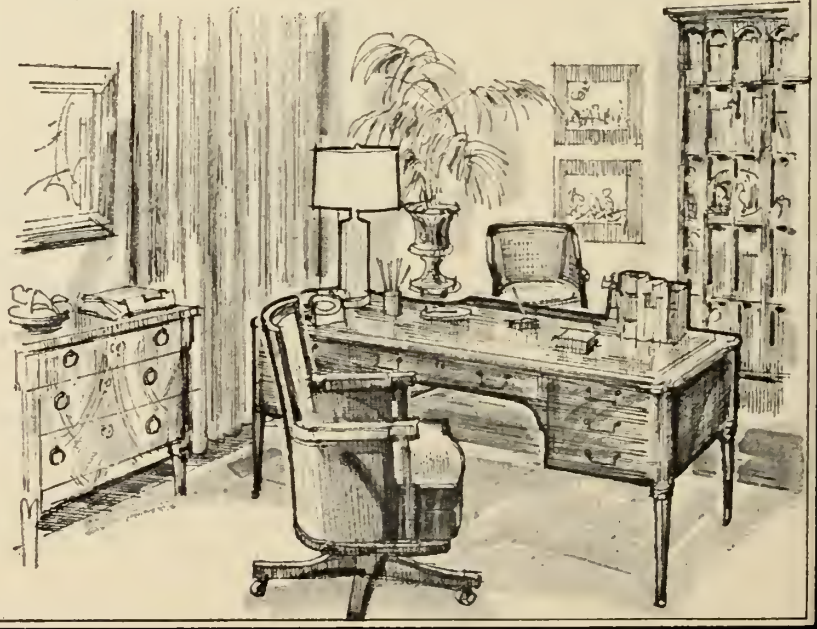

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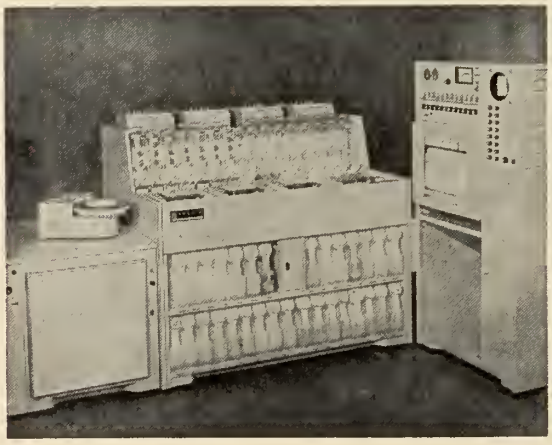

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Epidemic Influenza And The Rhode Island Fight Flu Program

Program Aims At Preventing Unnecessary Deaths And Illness

By Gerald A. Faich, M.D., M.P.H.

The Department of Health has planned a major program of immunization against A/ influenza to be conducted over the next several months. The goal of this massive, unprecedented project is to make influenza vaccine readily available to every Rhode Island citizen. To explain the origins and rationale behind the program, I propose to start by reviewing briefly influenza A virology and epidemiology. Then I will describe the national and state decision-making processes that initiated the program. Finally, a description of the Rhode Island program will be given.

INFLUENZA VIROLOGY

Influenza epidemics have been known since at least the twelfth century. In the 15th century the disease was first called influenza referring to the influence of the stars or cold weather.[1] The first influenza isolation was made from swine in 1930.[2] Since then the virus has been characterized as a myxovirus with three types of core RNA nucleoprotein (A, B, and C). Studies have shown that each type has a district epidemiology. Influenza A is the only type that results in world-wide epidemics, pandemics. Two proteins, the hemagglutinin and the neuraminidase, project from the surface of the virus; human influenza viruses contain four distinct hemagglutinins and two distinct neuraminidases.[3]

GERALD A. FAICH, M.D., M.P.H., *Chief, Division of Epidemiology, Rhode Island Department of Health.*

Nomenclature for the influenza virus is now standardized.[4] Each virus is identified by its core protein, the animal host in which it was isolated, the laboratory location, the year of the isolation, and the hemagglutinin and neuraminidase type. Thus, the official designation of last year's A/Victoria virus is A human/Victoria/75 (H3N2), while the 1976 Swine virus is labeled A/New Jersey/76 (HswlN1).

One of the most important characteristics of the influenza virus is the propensity of the hemagglutinin and neuraminidase proteins to undergo frequent antigenic changes. Such changes, when not radically different from prevalent strains, are known as antigenic drift; more drastic changes have been called antigenic shifts. These changes may be caused by mutant selection due to increased antibody pressure in the host population.[5]

EPIDEMIOLOGY OF INFLUENZA A

Pandemics of influenza A have occurred at about 10 to 30 year intervals; recent examples of this phenomenon were the A/Asian epidemic of 1957 and the A/Hong Kong epidemic of 1968. The major mechanism of these pandemics appears to be the occurence of an antigenic virus shift resulting from the emergence of a strain to which a large number of human subjects are simultaneously susceptible. This, combined with high person-to-person transmissibility, has resulted in epidemics of enormous size. Such epidemics

(Continued on next page)

spread throughout the world with extreme rapidity. In both 1957 and 1968 only six months passed between the initial isolation of the new strain and the worldwide dissemination of the disease.[6]

Influenza A epidemics characteristically affect large numbers of people but cause deaths in relatively few. Thus, about 20 to 30 per cent of the population becomes ill while case-fatality rates are below 1 per cent in most epidemics. However, because so many are affected, the resultant number of deaths is sizable.

The impact of influenza epidemics is usually measured in terms of excess mortality. However, measurement of the overall effect of influenza must include economic loss due to job and school absence and the cost and suffering caused by the illness even in the absence of death. Thus, for perhaps the best studied influenza epidemic, Hong Kong flu of 1968, Kavet estimated that 27,500 deaths occurred and the approximate total cost was 3.8 billion dollars in the U.S. alone.[7] Excess deaths in the U.S. in 1957-58 associated with Asian flu numbered almost 70,000.[6] The worst epidemic on record occurred from 1918 to 1919 causing an estimated 20 million deaths worldwide and about 500,000 deaths in the U.S.[8,9]

INFLUENZA DUE TO SWINE TYPE VIRUS

Swine influenza virus is distinguished from other influenza A viruses by its surface antigens.[3] Retrospective serologic studies have implicated Swine flu virus as the cause of the 1918-19 pandemic.[10] The swine strain was prevalent in the United States until the 1930s. Since then, although a frequent cause of disease in swine,[11] it has not commonly infected man. A few isolated human cases have been reported[12,13] and serologic surveys indicate that 1 to 6 per cent of the U.S. human population under 50 years of age have swine antibodies. Such antibodies may result from some crossover serologically with other A/influenza viruses or prior infection with swine virus acquired from pigs. This is suspected because swine antibodies are more frequent in farm based populations than in urban populations.[14]

This situation changed radically in January and February of this year when cases of swine influenza were detected in the midst of an A/Victoria outbreak at Fort Dix, New Jersey. Viral isolates of A swine virus were obtained from five military recruits, while six additional cases were confirmed by 4-fold serologic rises. Surveys showed that 34 per cent of 110 close contacts with the 11 confirmed cases had swine antibodies, while only 6 per cent of recruits with no direct contact with cases were positive. From this it has been estimated that as many as 500 cases of swine influenza occurred at Fort Dix.[14]

RATIONALE OF THE NATIONAL INFLUENZA IMMUNIZATION PROGRAM

Even though it has been six months since President Gerald R. Ford announced the National Influenza Immunization Program, doubt about the program has persisted.[15,16,17] For this reason a review of the decision-making process and the program rationale seems merited.

The first step at the federal level was to evaluate what the likelihood of a swine virus epidemic would be. It was felt that an epidemic was possible because:

1. The virus had demonstrated capability for human-to-human spread.
2. There are a large number of susceptible persons in the population.
3. Whenever a "new"strain of A influenza has been isolated in the past, it has been associated with a pandemic.

The magnitude of the threat of an epidemic could not be quantified, but it appeared to be a definite possibility.

The second step was to decide whether a safe and effective vaccine could be produced, tested, and distributed prior to the onset of the influenza season this winter. It was felt that this could be done and that immunizations would start in late summer. It was recognized that this would be the first time that an influenza vaccine would be prepared against a strain that had not yet caused extensive epidemics.[16]

Next, an attempt was made to review the potential costs and benefits of the program. Estimates of the total cost of the program both at the federal and state levels range from $250 million to $350 million. Using the Hong Kong flu cost of $3.8 billion and assuming that the program would reduce morbidity and mortality by 70 per cent, it was estimated that the potential savings were $2.6 billion. From this, the potential benefit-to-cost ratio

was about 10 to 1. It was recognized that if an epidemic did not come, then the money spent would be wasted. In fact, this wastage has been compared to the wastage that occurs for fire insurance if fire doesn't occur. In such a case all one gets is the protection and security of being prepared.

Based on the three steps outlined above it was decided that a major influenza threat existed, that it was feasible to prepare a vaccine in time and that the potential benefits justified the expense of a nationwide program.

Some have sugested that vaccine should be produced and stockpiled waiting for the epidemic to start. This was rejected on two grounds. Most of the same production and planning costs would be incurred. More importantly, the actual administration of vaccine on a large scale will take months. Thus, for example, if all 3,000 available jet injectors are used each giving 500 immunizations per hour, eight hours per day, nearly 20 days would be required to immunize the entire population. Since influenza epidemics move rapidly and almost from the start are multifocal, it was felt that stockpiling was less than "half a loaf."[18]

Further criticism of the federal program has centered on the observation that swine flu did not apparently spread to surrounding areas of New Jersey after its appearance at Fort Dix and that other outbreaks have not yet occurred. The answer to this is that seeding may have occurred, but that transmission factors (such as climate) are not yet ripe for an epidemic, and that existing surveillance methods are not sensitive enough to detect isolated cases. The dynamics of epidemic strains of influenza A viruses during the year or two piror to an epidemic are simply not known.

RHODE ISLAND IMMUNIZATION PROGRAM ORIGINS

After discussion with federal health authorities in April, the Rhode Island Department of Health decided to support the national immunization project. Given the possibility of an epidemic and the availability of a vaccine, it was felt that every effort should be made to make such a vaccine available to R. I. citizens. From the start the Department has felt that the program should be a joint endeavor between the health and community organizations, the private sector of medicine and the state. Without a broad "grass-roots" base, the program simply could not gain the public acceptance and accessibility required for success.

It can be noted that the cost-benefit analysis for Rhode Island is even more favorable than that given for the country as a whole, because the federal government will provide the vaccine free to the state. If epidemic swine influenza resembling Hong Kong flu strikes Rhode Island, it can be estimated that the cost to society will be about $19.5 million. The cost to implement the influenza program in Rhode Island will be about $360,000. Allowing for 70 per cent effectiveness, almost $14 million will be saved (benefit-to-cost ratio of 36:1), if swine influenza strikes with the same impact as Hong Kong flu had in 1968.

In July the Division of Epidemiology of the Department of Health began work on the Fight Flu Program in earnest. Earlier planning was not possible because of delays in vaccine production, specifications, and timetables. The task ahead is of unprecedented size and must be done in a very narrow timeframe. Our goal is to immunize over 70 per cent of the population of the state in the next several months. Even the 1960s polio campaigns in Rhode Island did not exceed 500,000 immunizations over a one year period of time.

VACCINE SPECIFICS

Detailed Swine influenza vaccine information will be sent to every Rhode Island physician.[19] Two Swine influenza vaccines will be available only from the Department of Health: a bivalent preparation (A/Swine and A Victoria) intended exclusively for the high risk group (the aged and the chronically ill) and a monovalent preparation (A/Swine alone) for the general healthy population 18 to 59 years of age. No PHS recommendations have yet been made for 17 years or younger. It is anticipated that recommendations for children will be made in late September or October. Until these recommendations are made, no plans can be developed for those under 18 years of age. Vaccine recommendations are summarized in Table I.

(Continued on next page)

TABLE 1

1976 Swine Influenza Vaccine Recommendations Summary

Recipient Group		Vaccine Type		Booster
Risk	Age	Bivalent	Monovalent	
High*	18-24	Yes+	No	Maybe
High	25+	Yes	No	No
Low	18-24	No	Yes+	Maybe
Low	25-59	No	Yes	No

*High Risk: Those 60 or over in age or those 18 or over with chronic cardiopulmonary disease, chronic renal failure, diabetes, or other severe metabolic diseases.

+Whole virus vaccine, when available, should be used.

Monovalent B vaccine (B/Hong Kong/72, Parke Davis and Wyeth) has also been recommended for the high risk group by the PHS advisory committee.[19] This vaccine will only be available through usual commercial channels. It will not be incorporated into the Department of Health's Fight Flu Program for several reasons. Influenza B differs epidemiologically from its relative, influenza A. While epidemic influenza B may cause some excessive mortality among the elderly and chronically ill, its effects do not approach the morbidity and mortality of pandemic influenza A. The concurrent administration of influenza B vaccine with Swine influenza vaccine may result in enhanced side effects. Thus it is felt prudent to give the two vaccines separately. It is important that physicians neither order nor administer influenza B vaccine in the belief that it will offer protection against Swine influenza. Influenza vaccine is type and strain specific.

SWINE INFLUENZA VACCINE DISTRIBUTION FOR RHODE ISLAND

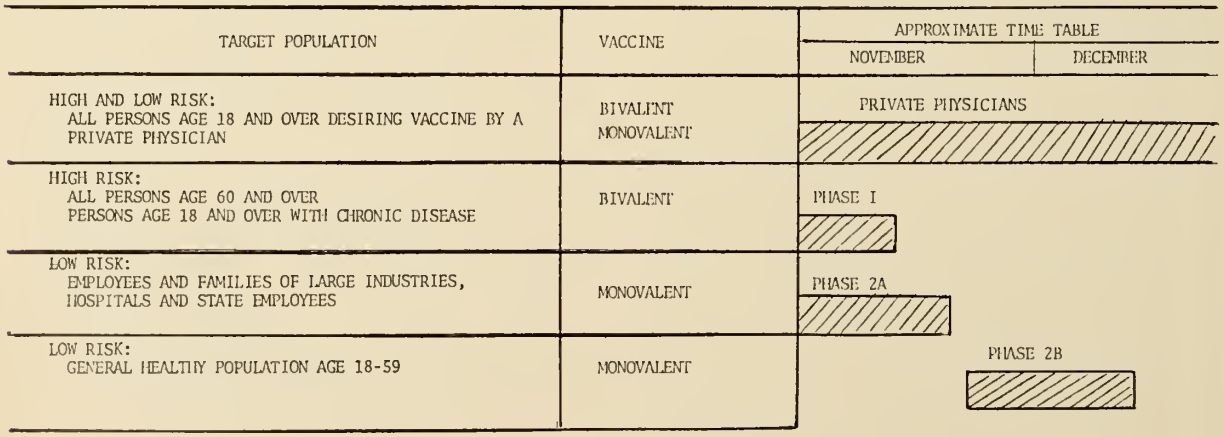
To provide ready availability of vaccine, a multiphasic strategy has been developed (Fig. 1). Plans for vaccine ordering channels, training, logistics, and publicity are now almost completed. Only tentative dates for the various phases of the program can be given at this time since firm vaccine shipment dates have not yet been established by the federal government; these dates should be fixed by mid-September. Vaccine allocation figures for Rhode Island are also still somewhat in flux. The best estimates available indicate that in excess of 126,000 doses of bivalent vaccine will be available for the high-risk group, allowing for 100 per cent coverage. About 300,000 doses of monovalent vaccine should be available for the healthy population 18 to 59 years of age; this allows for almost 70 per cent coverage and should be adequate to meet anticipated demand. It must be emphasized that participation in the program at all levels is entirely voluntary.

About the beginning of November, vaccine will be made available free to all physicians. During all phases of the program citizens will be encouraged to go to their physicians to receive the vaccine. While no charge can be made for the vaccine itself, an administration fee is allowable. Other mechanisms for vaccine distribution have been planned for

(Continued on page 418)

FIGURE 1

1976 RHODE ISLAND FIGHT FLU PROGRAM — VACCINE DISTRIBUTION PHASES



Genetic Counseling In Rhode Island

Service Has The Potentiality Of Preventing Many Birth Defects

By Dianne Abuelo, M.D.; Gail Barsel, B.S., M.S.; S. M. Pueschel, M.D.

In the last 20 years our understanding of genetic disease has increased enormously. The field of human genetics has been expanding rapidly since 1956 when it was found that the human cell consists of 46 rather than 48 chromosomes. Shortly thereafter, in 1959, Lejeune and his coworkers discovered that children with Down Syndrome had 47 chromosomes. The field of cytogenetics has grown considerably since then and parallel advances have been made in the field of biochemical genetics. For example, the recognition and treatment of phenylketonuria (PKU) has become a routine part of neonatal care in Rhode Island during the past 10 years. State laws mandate screening of all newborn infants for the presence of PKU in Rhode Island and in over 40 other states. Any infant found to have PKU is placed on a phenylalanine restricted diet, preventing the mental retardation which occurred in the past. In addition a Tay-Sachs screening program has been initiated at The Miriam Hospital in Providence. Screening programs for other congenital disorders (hypothyroidism, maple syrup urine disease, homocystinuria, tyrosinosis, and galactosemia) are presently operating on a regional basis.

Each year 75 to 100 new genetic diseases are described. There are now over 2000 Mendelian autosomal dominant, recessive, and sex-linked gene defects catalogued.[1] In addition, some of the common birth defects such as cleft lip and palate, congenital heart defects, meningomyelocele with hydrocephalus, and club foot have been found to be polygenic or multifactorial in origin.

It has been estimated that approximately one third of all pediatric hospital admissions are related to genetic disorders,[3] that a significant proportion of infant mortality results from genetic factors, and that approximately 50 per cent of early spontaneous abortions demonstrate gross chromosomal defects.[4]

Although treatments have been developed for some of the biochemical disorders, many are still incurable and result in permanent disability, mental retardation, and much hardship and anguish for the families affected. Since many of these families are identifiable as being at high risk for genetic disease, preventive measures become possible.

In order to engage in primary prevention, the Genetic Counseling Center at Rhode Island Hospital has been established to provide comprehensive genetic counseling to any couple or individual residing in the State of

(Continued on next page)

DIANNE ABUELO, M.D., *Consultant in Genetics, Rhode Island Hospital.*
GAIL BARSEL, B.S., M.S., *Genetic Counseling Coordinator, Rhode Island Hospital.*
S. M. PUESCHEL, M.D., *Director, Child Development Center, Rhode Island Hospital.*

Rhode Island. Indications for genetic counseling include situations in which a family or individual: 1.) has had a child born with a congenital abnormality; 2.) assumes to be at risk for having a child with a congenital abnormality; 3.) has a history of repeated miscarriage, stillbirth, or infant deaths; 4.) is past the age of 35 and is or wants to become pregnant; 5.) has a history of excessive exposure to drugs, radiation, or chemicals; 6.) is married to or planning to marry a close relative; or 7.) belongs to an ethnic group which has a high incidence of a particular inherited disease (e.g., Tay-Sachs disease in Jewish people, sickle cell anemia in black people, Thalassemia in people of Mediterranean origin).

The Genetic Counseling Center consists of a clinic at Rhode Island Hospital and 11 satellite clinics throughout the state. These are at the following locations: 1.) Pawtucket Memorial Hospital; 2.) East Providence Health Center; 3.) Warwick Community Action Program; 4.) Cranston Health Center; 5.) Burrillville Visiting Nurse Association; 6.) Woonsocket Family Planning Clinic; 7.) Newport Visiting Nurse Association, Family Planning Center; 8.) Tiverton Visiting Nurse Association, Family Planning Center; 9.) Planned Parenthood, South County; 10.) Women and Infants Hospital, Family Planning Center (includes an ambulatory amniocentesis program); and 11.) Meeting Street School.

The presenting problems of individuals and families who request our services are discussed at weekly genetic counseling conferences by a team consisting of a genetic counseling coordinator, the director of the Child Development Center, and professionals who are trained in one or more of the following: pediatrics, cytogenetics, and clinical genetics. Fellows, resident physicians, and medical students are invited to participate in the genetic counseling program.

This program is jointly supported by the National Foundation-March of Dimes and the Rhode Island State Department of Health and is presently free of charge to the patients. In addition to providing genetic counseling for families and individuals, the Genetic Counseling Center is involved in a general educational program of the public at large. The educational aspects of the program include various television and radio programs and announcements, newspaper articles, posters, and brochures, as well as lectures and symposia relating to our work.

THE PROCESS OF GENETIC COUNSELING

The first essential in genetic counseling is accurate diagnosis. Sometimes patients are referred to us with a definite diagnosis, whereas in other instances the genetics team attempts to establish a diagnosis. Workup always includes a detailed family history and pedigree. Cytogenetic and biochemical studies as well as consultations with other specialties are often needed. Once all available information has been gathered, it is presented at the time of conference. After extensive discussion the approach to genetic counseling is formulated. The individual or family then returns for another appointment and is informed of the diagnosis (if not previously known), the etiology of the condition, its management and prognosis, and an estimate of the risk of occurrence or recurrence in future offspring. The risk varies from 50 per cent for autosomal dominant conditions to 25 per cent for recessives, approximately 5 per cent for polygenic conditions, and 1 per cent for mothers who had a child with Down Syndrome. We prefer to practice "nondirective" counseling, that is, we encourage a frank discussion and provide individuals or couples with all available relevant information but do not give specific advice, recommendations, or personal opinions. Following this conference a letter is sent to each patient summarizing the essential points of the discussion, which they may keep for future reference.

AMNIOCENTESIS PROGRAM

When a couple is at risk for having a child with a condition that is amenable to prenatal diagnosis, we offer amniocentesis. This procedure is preferably performed at approximately the 15th or 16th week of gestation, and results are usually available within 2 to 3 weeks. Our most common indications for amniocentesis at the present time are the following: 1.) a previous child with Down Syndrome or any other chromosomal abnormality; 2.) a chromosomal abnormality in either of the parents; 3.) advanced maternal

(Continued on page 422)

Hepatic Injury Associated With Quinidine Therapy

This Is The Fifth Reported Case Of This Rare Form Of Quinidine Toxicity

By John A. Roque, M.D.

Quinidine, an isomer of quinine, has rightfully enjoyed a secure place as a useful drug in the treatment of cardiac arrythmias. In this regard it would seem to be firmly established, as it has certainly stood the test of time. Although supplanted to some degree by procainamide, it has continued to enjoy wide usage. Side effects have, for the most part, been limited to gastrointestinal complaints such as nausea, vomiting, and diarrhea, although its suppressant effect on the myocardium has been recognized. Other side effects reported include atrioventricular (AV) block, extrasystoles, paroxysmal tachycardias, and ventricular fibrillation. Hepatic toxicity, however, has rarely been noted. In fact, as far as this author can determine only four cases of this disorder have been reported in the world literature.[1-4] It was thought worthwhile, therefore, to describe what appears to have been a fifth case of this unusual complication of quinidine therapy.

CASE REPORT

D.K., a 56 year old white female, was referred to the author by her own physician because of sudden onset of chest pain with heaviness of both arms. After treatment in the Emergency Room, she was transferred to the Coronary Care Unit where an episode of ventricular tachycardia occurred which responded to lidocaine infusion. She was kept on lidocaine drip until her fourth hospital day, at which time it was discontinued, and the patient was placed on quinidine orally. Her course immediately following this was fairly benign. Serial electrocardiograms and enzymes supported the clinical impression of myocardial infarction but no further arrythmias developed. On 10/9, her twelfth hospital day, the patient's temperature rose to 101°F (38.3°C). Although she complained only of mild anorexia and slight nasal stuffiness. She specifically denied sore throat, cough, or other symptoms. Physical examination was unremarkable, and she was treated with Tylenol® and bed rest. Her febrile course continued, temperature spiking to 103.4°F (39.7°C) on 10/11, her fourteenth hospital day.

She complained only of anorexia and weakness. Studies during this period included a chest x-ray and blood culture, both of which were negative. Hemograms were normal with no leukocytosis. Urinalysis results were normal. Alkaline phosphatase rose to 115 (N 30-85). Febrile agglutinins were negative except for a 1:80 positive reaction to typhoid O. Test for Australian Antigen was non-reactive. Enzyme levels were elevated, as follows: SGOT which had risen to 168 on 9/28, the day after admission, and had reached a normal level of 15 on 10/6, rose to 75 on 10/11 and remained elevated throughout the rest of

(Continued on page 423)

JOHN A. ROQUE, M.D., *Physician, Department of Medicine, St. Joseph's Hospital; Associate Physician, Department of Medicine, Rhode Island Hospital.*

Medicare Provides Foundation For NHI

Improvements And Expansion Of Medicare Can Point Way To Workable National Health Insurance Program

By Arthur E. Hess

Everyone who has played a part in the planning or implementation of Medicare can be proud of its accomplishments. It works well. It deserves improvement and expansion. Basically, it is a sound foundation on which to build toward a national health insurance program.

There are a number of interim steps that we could take even as we continue to contemplate the larger possibilities of national health insurance. Two different types of "next steps" deserve our attention. The first type is programmatic — changes in program provisions that are consistent with movement toward national health insurance and that, indeed, may significantly contribute toward defining issues and may provide some further experience directly applicable to the resolution of the larger national health insurance picture. The second area is simplification of administration — improvements in structure and systems that would simplify the administrative process, improve efforts currently under way to control the quality and cost of medical care, and help to prevent provider abuse and fraud.

ARTHUR E. HESS, *recently retired Deputy Commissioner of Social Security.*

Reprinted, with permission, from **Hospitals**, Journal of the American Hospital Association, Volume 50, Number 5, March 1, 1976, Pp 49-53.

There is a growing realization that definitive action on the larger issue of universal national health insurance is much farther off than anyone would have thought a year or two ago. Both the President and Congress must be able to consider the need for such comprehensive legislation in an environment that is not so deeply overcast by fiscal, economic, and election-year concerns. A seriously unbalanced budget and a continuing prospect for unacceptable rates of inflation and unemployment will continue to be the overriding concerns in terms of foreseeable fiscal and legislative priorities. Moreover, the chances of getting a legislative consensus in this area — not to speak of a meeting of the minds between the Administration and the Congress — have become inordinately difficult.

We must therefore ask ourselves: **Why should we continue to postpone consideration of what we can do now to improve coverage and effectiveness of the programs for the elderly, the indigent, and the disabled?** These people look to Medicare and Medicaid every day for assurance that necessary medical care will be provided and paid for. We should

The Editors are of the opinion that this analysis represents a fair and balanced evaluation of the future course of NHI. It is reprinted for the information of our readers.

not wait for a global solution to improve their lot.

If we set up certain criteria for next steps, some refinements in present programs can be made that are relatively noncontroversial and that make sense in and of themselves. Indeed, the next steps in Medicare could be designed to make a major contribution toward the ultimate application of any new national health insurance provisions for the aged and dependent populations.

BASIC PREMISES

First, any national health insurance program is going to have a basic core of publicly financed health care provisions for those who are retired or disabled and, perhaps, for additional low-income persons for whom the costs of health insurance coverage cannot be derived solely from an employer/employee relationship. We can sidestep at this time the issue of whether national health insurance will be a single comprehensive enactment that brings basic coverage for all under a public program or whether it will turn out to be the piecing together of several methods of coverage, including both private insurance and public financing.

Second, whatever national health insurance may turn out to be, the final enactment will not confront the nation's elderly citizens with the abolition of Medicare. I don't expect we will end up testing basic eligibility of a Medicare beneficiary on the basis of means (even though we may take means into account in cost sharing). Nor do I think we will substantially increase his cost-sharing burden. I do expect we will probably come to rely more on general revenues in this particular part of the social insurance program. But the ultimate pattern will preserve the social insurance concept at least for the aged and seriously disabled, with eligibility for a broad range of benefits as a matter of right.

Third, I would also sidestep the question at this time of whether this same core public program at the federal level for the aged and disabled is the best vehicle for handling the coverage needs of the rest of the dependent population, particularly families with dependent children. I happen to think that here, too, we may end up federalizing all of Medicaid, but this point is not on my agenda of immediate next steps.

Fourth, we are not ready now to realign the current roles of government and private insurance in Medicare, and the role of the states in Medicaid is still worth pondering. However, we could realign **parts** of the structure of Medicare and Medicaid so that these two government-administered health programs would provide more rational treatment for the population groups they serve. Currently they overlap with respect to both clientele and services.

In sum, the time is ripe to develop now for possible early enactment a set of changes that would not require too much new money and that would significantly improve the performance of present federal programs and simplify their administration.

REVISING PROGRAMS

We need to adjust the coverage provisions and eligibility requirements of Medicare to make this federal program the basic, comprehensive program for all of the elderly, providing a full range of hospital and medical services but leaving certain distinct areas, such as long-term care, to Medicaid. For all the aged — and to the extent possible for the disabled — my aim would be to eliminate the dual coverage of services received by a beneficiary.

Immediate results could be expected in the form of simplified program administration, improved public understanding, and strengthened organizational accountability to hold down medical care costs and to control abuse. However, these advantages cannot be made to flow simply from a change in present federal organizational structure or by moving responsibilities for present programs from one part of HEW to another. They will arise only from sorting out and realigning programmatic provisions now fragmented by law.

My specific proposals for Medicare are divided into two categories: Some with relatively modest cost and high payoff for improved administration but with essentially no new coverage, and some with sizable costs but also good payoff for administrative simplification and high potential for greater beneficiary satisfaction through improved coverage.

In the first category, the Medicare program should be substantially improved by:

(Continued on next page)

•Extending eligibility to all persons age 65 and over for both hospital and medical coverage.

•Eliminating cost sharing (including premiums) for low-income aged and disabled persons who are eligible for supplemental security income (SSI).

•Assuring catastrophic protection for everyone by providing for upper limits on cost sharing.

•Modifying reimbursement provisions, particularly those that deal with physician services, to improve both the payment process and cost control efforts.

In the second category, with appreciable added net cost, it would be highly desirable to proceed with:

•Combining Parts A and B of the Medicare law and eliminating monthly premiums.

•Eliminating the spell of illness concept by providing unlimited in-patient hospital days in a calendar year, relying only on utilization review and professional standards review to ensure that long-stay cases are proper.

•Clarifying and expanding somewhat the coverage of posthospital extended care.

•Covering prescription drugs for specified chronic conditions.

With these changes in the Medicare program, the Medicaid program should be strengthened and would continue as:

•The basic medical program for families with dependent children and for those indigent and disabled persons not eligible for Medicare.

•A supplemental program for those indigent, aged, and disabled under Medicare who need payment for certain medical services not covered by that program, such as eyeglasses and dentures.

•The primary long-term care program providing skilled nursing and intermediate care for needy persons of all ages.

You will recognize that this approach has elements that are similar to some of the components of several important NHI proposals now on the national scene. Some of my components are separable and could be removed from the package either on cost or on other considerations. I do not think that extensions of such coverage as vision care, dental care, long-term care and mental health care should come at this time. They are very expensive, and they move into areas where the role of Medicare in relation to Medicaid and other programs needs to be further examined. We should distinguish between improvements that strengthen existing roles and those that call for new roles.

SPECIFIC STEPS

The most crucial technical problem to be addressed in providing comprehensive benefits for the aged and the disabled is how to treat those who cannot be expected to meet deductibles and coinsurance because of low income and inadequate resources?

A practical solution is at hand. It is to provide automatic relief from cost sharing for all SSI eligibles (including those eligible for state supplemental payments only) and, thus, immediately to link together in a single process the payment decisions with those that are necessary to excuse the low-income person from cost sharing.

A simplified concept of catastrophic protection could be readily achieved by relying on the SSI decisional process to identify persons on the low-income side and by limiting the maximum liability for cost sharing of all others. The effort to introduce in any national health insurance scheme or in a catastrophic Medicare provision a set of income criteria different from those used for cash payments — especially a sliding scale that would require a vast number of periodic income determinations in order to avoid only small inequities in cost sharing — would be counterproductive at best and would probably result in total confusion of beneficiaries and providers and in a systems disaster.

It can be argued that not all persons with similar income will be treated similarly. Many states supplement the SSI payment, allowing persons to receive cash and/or medical assistance although their incomes are at varying levels above the national standard. Superficially, this seems inequitable. However, state supplementation exists for the very reason that it is necessary to recognize cost-of-living differentials between states or within a state. Even though there are other factors, such as the state's capability to finance these payments, that may

bring the rationale into question, nonetheless, it may be assumed that states will, generally, maintain SSI supplementation coverage where living costs substantially exceed the national base.

It can also be argued that there would be income-related notches immediately above the SSI/state supplement levels. However, these would be minimal and their impact would not be so serious because they would operate only on the cost-sharing requirement and would not be the kind of notches we can now have in Medicaid, where the difference of a few dollars of income can mean the difference between eligibility and noneligibility for services. Indeed, this approach would have the advantage of eliminating, to some considerable extent, the income-related "notches." The expansion of Medicare coverage and the placing of a limit on total liability for cost sharing would make it less likely that an individual would become medically needy. Moreover, if he is borderline SSI eligible because of low annual income and is forced to deplete his resources, he could then become eligible for the no-cost-sharing SSI classification.

LIBERALIZATION OF BENEFITS

Each of the benefit extensions or modifications suggested represents an effort to provide, at modest cost increases, a more comprehensive basic coverage than the current Medicare program. If cost constraints remain matters of overriding consideration, it would, of course, be possible to skip one or more of the benefit extensions. Each, however, has a rationale that relates to significant redefinition of role and to laying the administrative and programmatic groundwork for experience leading to national health insurance decisions.

LONG-TERM CARE

Medicare made a very real contribution at its start by financing alternative arrangements for patients who are recovering from posthospital episodes. The attempt, however, to define the circumstances under which postacute care can be given in terms of the need for continuous skilled nursing care in a skilled nursing facility (or the need for intermittent nursing care to qualify for home health services) has been only partially successful. Recuperation of a postacute patient frequently requires the support of an array of health-related and social services and the maintenance of the individual in a protected situation for a period during which he is not yet ready to function fully on his own or during which the family is not yet fully able to take over. Moreover, the terminally ill patient is not satisfactorily cared for under this concept.

For reasons of cost and because I do not think Medicare should really get into long-term care, I propose to continue the present skilled nursing care provision that provides up to 100 days of skilled nursing care if needed following a qualifying three-day hospital stay and to make sure this benefit covers the terminally ill. In addition, each hospital patient should be guaranteed at least 20 days of posthospital extended care each year simply upon certification of necessity by the attending physician. This would allow a period during which there would be certainty that the skilled nursing benefit would be paid as the individual moves from the hospital and will make for a smoother transition toward alternate modes of providing health care services.

For the long run, we ought to put more money into home care. A revised program that would do away with distinctions between Part A and Part B of Medicare could provide 200 home health visits per calendar year, with no prior hospital stay requirement but subject to the present Medicare criteria. Then, I would rely on emerging experience from a number of experiments that are now being conducted to determine the appropriateness of situations in which the services of a home health aide (independent of any need for nursing care) or other relaxations of the Medicare criteria for organized home health services are shown to make a useful difference to the individual and his family.

ADMINISTRATION

The proposed revisions to Medicare would permit simplification of current systems and of administrative structure. Simplified requirements for data input and data processing reduce the chances for error and greatly improve the dealings of patients and providers with the program. The simplifications include:

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Remarks Of The President Of Blue Shield Of Rhode Island

The Rhode Island Blue Shield Is Highly Regarded Both Nationally And Locally

By Arthur F. Hanley

My report to you this afternoon will be brief but I think representative of the activities and accomplishments of your Corporation during 1975. I also will address myself to those subjects that have a significant bearing on the future of Blue Shield of Rhode Island.

Enrollment felt the ravages of our depressed state and national economy during 1975. Several factors combined to reduce slightly overall membership in Blue Shield, including the extensive Navy cutbacks in the state, the very high unemployment rate, and the effects of inflation on the viability of our business community. At year end Blue Shield recorded 749,359 subscribers, a reduction of 7,331 over the year 1974. Losses of membership were far less than we had anticipated for the year, and were kept minimal through the acquisition of new accounts that selected Blue Shield over their existing commercial insurance company carriers. Notable among the new accounts enrolled was the Carpenters Health & Welfare group, representing 3,600 subscribers. The year ahead appears very optimistic in terms of additional enrollment. Several major unenrolled group accounts are seriously considering transferring to membership in Blue Shield from existing competitive insurers. The improvement expected in the national and local economy will also have a positive impact on enrollment during 1976.

It is most pleasing to report that enrollment in the Blue Shield 100 program continues to increase, with some 75 per cent of the total membership covered by that excellent program. We extend thanks to the 1,200 participating physicians who have joined together to make Blue Shield 100 workable. Without their support the Blue Shield 100 subscriber contract wouldn't be worth the paper it is printed on. Without physician support there would be no Blue Shield 100 program.

In addition to the growth of Plan 100, the Major Medical program continued its growth during 1975. Some 70 per cent of the subscriber body now enjoys the benefits of major medical protection.

While benefit payments under Blue Shield increased by nearly $8,000,000 in 1975 to reach a new high of $39,000,000 for the year, and while subscribers continued to upgrade their coverage to more realistic benefit programs, premium rates have proven to be inadequate to support the benefits being used by subscribers. Blue Shield incurred a financial loss of $2,660,000 during the year, reserve funds have been exhausted, the Corporation is technically insolvent, and a request for increased rates must be filed with the State Director of Business Regulation.

The rate relief granted by the Director effective last September and projected to cover claims expenses and maintain a reserve level of one-half month of claims and related expenses proved to be totally inadequate. In

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Read at the 27th Annual Meeting of the Corporation of Blue Shield of Rhode Island on March 10, 1976.

Annual Report Of The Chairman Of The Board Of Blue Shield Of Rhode Island

Increased Public And Physician Confidence, Administrative Efficiency, And Financial Stability Are Future Goals

By William J. MacDonald, M.D.

Each year at the annual meeting it is customary for the chairman of the Board to present a report to the corporation of Blue Shield. After one year as chairman, I have come better to appreciate the many factors which have made our Plan one of the best in the country and some of the dangers which threaten this enviable position.

In order for a health insurance Plan to maintain an outstanding performance record, there are several forces involved in the delivery of medical care which must interact positively with one another. I should like to comment on the four forces which I consider most important. First is the efficiency and responsiveness of the administrative staff. Second is the support and confidence of the Plan's participating physicians. Third is the confidence and support of the community of subscribers, and fourth is the informed and balanced cooperation of the department of Business Regulation.

The administrative ability of a Blue Shield organization can best be measured by the Plan's overall performance, and specifically by economy of operation, speed and efficiency in the processing of claims, and responsiveness to the needs of the community by experimenting with and initiating new programs which improve the quality of care or provide lower-cost alternatives of care. The Rhode Island Blue Shield Plan has been fortunate through the years in having an outstanding administrative staff.

A review of the record clearly documents this statement:

- The Plan performance review conducted by the National Association of Blue Shield Plans (NABSP) and the Blue Cross Association (BCA) during 1975 confirmed what we had known for some time — that our Plan is consistently one of the best in the country.
- During 1975, a year of double digit inflation, the Plan's administrative costs as related to subscriber premiums decreased from 9.1 per cent in 1974 to 8.6 per cent in 1975.
- Blue Shield claims processing time during 1975 was 6.35 calendar days, one of the best records for any Blue Shield Plan. In addition, claims processing cost was also considerably below the national Plans' average.
- In its capacity as carrier for Federal Medicare Part B, our Rhode Island Plan was one of the most efficient carriers as deter-

(Continued on next page)

WILLIAM J. MacDONALD, M.D., *Past President, Rhode Island Medical Society and Providence Medical Association; Former Vice Chairman, SEARCH; and Assistant Clinical Professor of Obstetrics and Gynecology, Brown University Program in Medicine.*

Read at the 27th Annual Meeting of the Corporation of Blue Shield of Rhode Island on March 10, 1976.

mined by numerous government audits.

The Plan's responsiveness to the health care needs of Rhode Island are also well documented:

- The development of Blue Shield 100 in 1968 was in direct response to the market's need for paid-in-full coverage. Today more than 70 per cent of our subscribers benefit from this program.
- Plan 65 was developed to fill the gaps in Federal Medicare coverage. As the government each year decreases the protection afforded by Medicare, Plan 65 has become of increasingly vital importance to the elderly.
- More recently Blue Shield has led the way in the development of lower cost health care alternatives such as same-day surgery programs, skilled nursing facility benefits, home care, and other programs. Blue Shield has also been actively involved in developing an alternative to health care delivery through health maintenance organizations in Bristol and Newport.

This record of performance and accomplishment is one in which we can all take pride and one which gives us confidence in the ability of the Plan to meet the challenges ahead.

The Plan's record of success is also directly attributable to the high level of support by Rhode Island physicians. Ninety-five per cent of Rhode Island's physicians have voluntary agreements with Blue Shield. These physicians have agreed to accept a fraction of the usual fees from the diminishing number of under-income Plan A and B subscribers and usual, customary, and reasonable (UCR) fees for the rapidly increasing number of Plan 100 subscribers. This physician support has made the Plan attractive to the public and to the many employers who provide Plan 100 as part of their employment benefits. Our physicians have shown commendable restraint in increases in fee profiles during the past several years. While the cost of living index has increased 47.1 per cent in the past six years, physicians' fee profiles have increased by approximately 20 per cent. It is unrealistic not to expect reasonable increases in physicians' fee profiles this year as a result of the persistent inflation and the unprecedented exorbitant increase in malpractice insurance premiums since the last fee schedule revision.

The third factor to which I wish to address myself this evening is public confidence in Blue Shield. Here in Rhode Island and nationally Blue Shield Plans are paying the price of being number one. The price is high, and it comes in the form of harsh public scrutiny by government, the press, and so-called consumer representatives. Despite frequent critical attacks on non-governmental programs such as our Plans, I believe the confidence of the public in the reliability and efficiency of Blue Shield remains high, as evidenced by high enrollment and by public surveys which consistently give high marks to our Plan.

I hope the public has carefully considered the implications of a recent study on the processing of Medicare A claims by the government's general accounting office. The report presented the results of a study of the relative cost of processing Medicare A claims by the social security administration, two Blue Cross Plans, and two commercial insurance carriers. The report, requested by the House Ways and Means Committee as part of its work in considering national health insurance, showed the social security administration cost to be $12.39 per claim as compared to costs of $7.31 and $3.35 for the Blue Cross Plans. The commercial carriers' cost fell between the high SSA cost and low Blue Cross costs.

Another good example of the price we pay for being number one is the attention which has been focused on Blue Shield Plans nationally in the form of a Federal Trade Commission probe to determine if heavy physician involvement in the Plans has stifled competition and contributed to the rising cost of health care. The bylaws of Blue Shield of Rhode Island hitherto and of many Blue Shield boards nationally provide for a majority of physicians on the board of directors and on the corporation. Even though our board of directors had already considered and voted approval of the bylaw changes being presented this evening long before the announcement of the FTC, the implications of this probe are harmful to the reputation of the Plans nationally. Concern over the composition of our Boards has been the subject of some persistent criticism by the local press and government agencies in recent years.

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Editorials

UNNECESSARY SURGERY, SURGICAL DEATHS, AND SECOND OPINIONS

The Report of the Congressional Subcommittee on Oversight Investigation under the Chairmanship of Representative John E. Moss of California released in January of this year contended that in 1974 2.38 million unnecessary surgical procedures were performed, and that "Unnecessary surgery led to 11,900 deaths last year." At about the same time the **New York Times** in its famed series of articles on American medicine stated that in 1975 there were 472,000 cholecystectomies performed in the United States with 6,700 deaths (1.4 per cent). The article claimed that 14 per cent of the cholecystectomies were "not recommended" (whatever that signifies) leading to the unsupported conclusion that nearly 1,000 patients subjected to cholecystectomies were the victims of "avoidable deaths."

In a much quoted December 1974 paper in the **New England Journal of Medicine** McCarthy and Widmer reported on a New York study in which board certified specialists were asked to review recommended elective surgical procedures. The original recommendation was "not confirmed" in 16.4 per cent of cases. The rate of nonconformation for cholecystectomies was 12 per cent. This study was later criticized in the **Journal** on several accounts. It failed to describe the training of those physicians who recommended the elective surgery, take into account the possible bias of the consultants, or in fact produce any evidence as to whether the second opinion was necessarily more in the patient's interest than the first. Doctor Franz J. Ingelfinger, Editor of the **New England Journal of Medicine** and himself an eminent gastroenterologist, concludes that at least a third of the second opinions in respect to cholecystectomy were in error, especially since many of the indications for elective removal of the gallbladder are "highly controversial." Furthermore, the mortality rate of 1.4 per cent for cholecystectomy obtained from the Commission on Hospital and Professional Activities undoubtedly applies to cholecystectomies for all indications (including acute gallbladders and those requiring common duct explorations), as the mortality for elective cholecystectomy is certainly less than 0.3 per cent and probably as low as 0.1 per cent.

In a recent editorial on the same subject in **JAMA** the procedure followed, the definitions employed, and the data used by the Congressional Committee were seriously questioned. As pointed out in the editorial the Committee began its study without first defining the nature of the problem being investigated. Finding the correct answers depends upon asking the right questions. The editorial continues:

"Definitions of what constitutes unnecessary surgery were developed during the hearings, and thus the problem was defined in terms of answers that the committee wanted to hear. This backward approach was further distorted by anecdotal evidence from persons who had undergone surgery and by testimony only from physicians prejudiced to one side of the question. Finally, data developed from limited regional studies were extrapolated to encompass all surgical procedures performed in the United States."

The several papers on which the claims in the Report and the **Times** articles were based appeared at various times in the **New England Journal of Medicine.** After a systemic analysis of the distortions in both the Subcommittee Report and the **Times** series, In-

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gelfinger expresses his dismay over the misuse of material from his publication: "Lay media," he states, "while relying on the reputation of the **Journal,** ignore the caveats and qualifications and translate the news for the public into accounts that are occasionally erroneous, and frequently unbalanced, and, even if accurate in text, may appear under misleading banners." He deplores this "curved-mirror image" and hopes that material from his "pretigious" **Journal** will be used by far more pretigious Congressional committees and the **New York Times** "in a manner that is consistent with their status and reputation."

We also decry the misuse of information published in our esteemed neighbor and contemporary and trust that the political operatives and the media will give equal exposure to his analysis of the distortions and bias in the published Report and articles.

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THE UNITED WAY

Americans have a long tradition of caring for one another. In this Bicentennial year, it is interesting to note that in the State of Rhode Island, organized community-wide concern for the less fortunate began more than 50 years ago. Providence Community Fund, United War Fund Campaign, Rhode Island Community Chest, Inc., United Fund — by whatever name it has been called — the impulse is the same: Humanity — a feeling of responsibility for one's less fortunate neighbors.

Now we call it the United Way. What did the dollars you contributed to last year's campaign do for you and your neighbor? They helped a crippled child, the senior citizen, financed youth guidance and recreational programs, helped a family stay together through counseling, helped a disaster victim to pick up the pieces, and much more.

There are over 130 participating agencies in the United Way. Each provides a needed service. Each can do only as much as your dollars make possible.

This year with unemployment and inflation still major concerns, and other social problems mounting, such as drug abuse and alcoholism, your dollars are needed more than ever. The many human services provided by the United Way make our community a better place to live. Physicians should be especially aware of the needs of the community and of the superb services provided by the member agencies.

In this Bicentennial year, do your share to continue the legacy and spirit of community giving established by our ancestors. **Give now and give your fair share.**

Editor's Mailbox

To the Editor:

I recently received the following expression of appreciation from an attorney in South Carolina who represented a Rhode Island resident treated in that state. The quality of medical practice in Rhode Island is sometimes less appreciated by our local residents than by visitors to the state.

> "I very much appreciated meeting you while in Providence, Rhode Island recently and was very much impressed with the professionalism of the physicians located in that city. I do not think I have ever met a more qualified group of physicians, nor a group who genuinely evinced such an interest in their patients."

A. A. Savastano, M.D.

To the Editor:

As the Commander of the largest military health care delivery system in the New England states, I am writing your society to introduce your physicians to a unique form of practice . . . . Army Medicine. The elimination of the Physician Draft has caused many physicians to view an experience in military medicine as a totally voluntary opportunity. We believe that we can offer today's physician an extremely attractive professional and social alternative to private practice.

Here at Cutler Army Hospital, Fort Devens, Massachusetts, there are a number of physician vacancies in internal medicine, general medicine, pediatrics, and anesthesia. We offer today's physician an environment in which he or she can pursue the practice of pure medicine as other health professionals manage the administrative tasks. Today's Army Medical Department offers guaranteed assignments for physicians and a competitive salary with numerous benefits.

Physicians who are interested in obtaining information pertinent to a medical practice at Fort Devens are encouraged to contact CPT Peter D. Tremblay, Personnel Procurement Office, (617) 796-2004. Through CPT Tremblay, a tour of our facilities as well as a meeting with Army physicians can be arranged. I would appreciate your publishing this letter in your next periodical if possible. Thank you for your consideration in this matter.

Eugene P. Hyland, M.D.
Colonel, MC
Commanding

Department of the Army, Headquarters Cutler Army Hospital, Fort Devens, Massachusetts 01433.

To the Editor:

In a letter dated May 4, 1976, I asked the help of state medical societies in advising their membership of the legal consequences of rebate arrangements with clinical laboratories in the Medicare program. I am grateful that many of you included that information in your routine newsletters. I am writing once again to ask that you consider bringing another matter to the attention of your membership. This relates to claims for Medicare reimbursement for laboratory services.

Medicare reimbursement rules require that the reasonable charge for a laboratory test that was performed by an independent laboratory, but billed by the attending physician, be related to the cost the physician incurred in obtaining the service for his patient. The Medicare carriers are permitted to allow as reasonable a nominal charge by the physician for the drawing of specimens and handling expenses. However, charges representing merely a physician markup of the charges over and above that actually imposed by an independent laboratory for the test itself are improper. Moreover, an independent laboratory not certified to perform a given test under Medicare may not be reimbursed with Medicare funds even though that test is billed through a physician.

In carrying out their responsibilities, Medicare carriers are required to determine the source of the lab service when the source is not indicated on the physician's bill. Where the service was performed by an independent lab, the carrier must determine that the lab-

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oratory is certified by Medicare to perform such tests and the appropriate payment to cover the laboratory's customary charge, rather than the physician's.

Review of Medicare claims indicate that some physicians continue to submit bills for lab tests without showing that the services were actually performed by independent laboratories. We think that it is essential that all of your members are apprised of and understand Medicare requirements, and that there be full disclosure by a physician concerning the source of tests for which payment is claimed under the program. Our aim is to avoid the possibility of physician billing in a manner that could have serious legal consequences.

If you would like us to assist in the preparation of informational materials on this subject, or if you have any questions, please do not hesitate to contact us.

Thomas M. Tierney

Director, Bureau of Health Insurance, Department of Health, Education, and Welfare, Social Security Administration, Baltimore, Maryland 21235.

EPIDEMIC INFLUENZA AND THE RHODE ISLAND FIGHT FLU PROGRAM

(Continued from page 404)

those without access to a private physician. To assure availability of the vaccine to private physicians, four distribution centers will be established. Physicians will be asked to come to these centers to receive a two week or one month supply of bivalent and monovalent vaccine. More than this quantity will not be distributed initially because the state's allocation will be received from the producers in divided amounts over a period of several months.

Also early in November phase I, a diffuse network of about 120 public clinics, will operate for one week to provide bivalent vaccine for the high risk group. Announcements of clinic sites and schedules will be made several weeks before the clinics open. About a week after phase I, follow-up clinics for those at high risk will be held at most hospitals throughout Rhode Island. Planning and implementation for this phase has been carried out by a Central Advisory Committee composed of representatives from the following groups: Hospital Association of Rhode Island; Rhode Island Health Center Association; Association of Home Health Agencies of Rhode Island; Rhode Island Department of Mental Health, Retardation and Hospitals; Rhode Island Department of Social and Rehabilitative Services; Rhode Island Lung Association; Rhode Island Association of Facilities for the Aged; Rhode Island Division on Aging; Associate Director, Rhode Island Group Health Association; Rhode Island Department of Community Affairs; Cranston Community Action Program; and the Rhode Island Nursing Home Association.

Phase IIA, the monovalent immunization of healthy individuals 18 to 59 years of age who are members of large groups, will also begin early in November. This phase will incorporate state employees, hospital personnel, college students, and industrial employees. Coordination, all supplies, site organization, recommendations, and in some instances jet injectors will be provided by the Fight Flu Program. The employer will be asked to provide the site and professional personnel. It is hoped that family members of employees will be invited to receive vaccine at these same sites.

About mid-November, monovalent vaccine will be made available for the general population 18 to 59 years of age not affiliated with large groups. This will be done through public clinics around the state in phase IIB. Clinics will be held on four different Sundays in different quarters of the state and will use jet injectors to accomodate large numbers of persons. It is anticipated that six to eight clinics manned by civic and health groups will function on each Sunday.

MEDICAL-LEGAL ISSUES

Many physicians and others are concerned about liability, vaccine safety, and other legal issues related to influenza immunization. Most of these issues have now been clarified.

First, the protracted struggle to insure the vaccine at the federal level has caused some concern about vaccine safety. In fact, the vaccine is safer and less reactogenic than prior influenza vaccines. Large field trials have shown that only about 2 per cent of those

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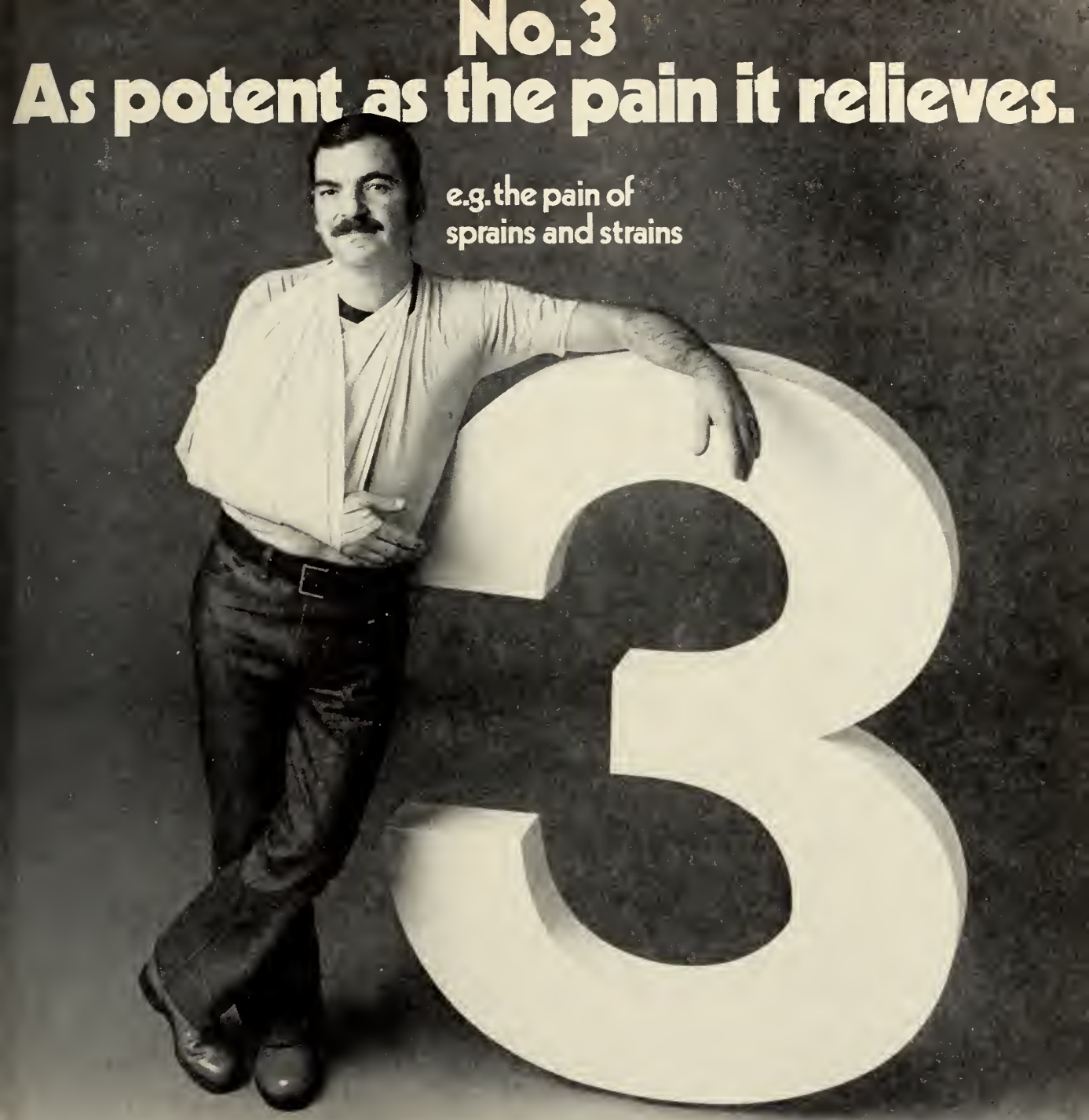

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- as potent as the pain you need to relieve in patients with fractures, sprains, strains, wounds, contusions, and the pain of surgical convalescence
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immunized develop adverse reactions consisting mainly of transient fever, headache, or both.[19] It should be noted that 2 per cent of those receiving placebos also developed adverse reactions. It appears that most of the federal legal issues are related more to the current medical-legal climate than they are to the vaccine.

In terms of implementor liability, several levels of protection have now been developed for those administering the vaccine without any charge and with informed consent. A state law, Title 23-8-2, grants immunity from prosecution, except in cases of gross negligence, to all those participating in public clinics. A new federal law provides that all suits related to influenza immunizations performed without charge must first be brought against the federal government, which can in turn bring suit against the involved party under existing state laws. The effect of these laws is to screen out nuisance suits for anyone administering vaccine without charge.

SUMMARY AND CONCLUSION

Swine influenza may strike Rhode Island this year. To protect the population the Fight Flu Program has been developed. This program aims at making influenza vaccine readily available to all citizens of Rhode Island. Vaccine distribution channels and program phases are being developed. Collaboration from community and health organizations and from the private sector of medicine are crucial if unnecessary influenza deaths and illness are to be prevented.

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ADDENDUM AND UPDATE:

Vaccine recommendations have just been made for chronically ill children 3 to 17 years of age; they should receive an initial dose of split virus Bivalent vaccine and a booster dose at least four weeks later (see **Mortality and Morbidity Weekly Report,** September 17, 1976). No recommendations have yet been made for all those under 3 years of age nor for healthy individuals 3 to 17 years of age.

For further information call the Fight Flu Program at 277-3282.

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* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

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▪ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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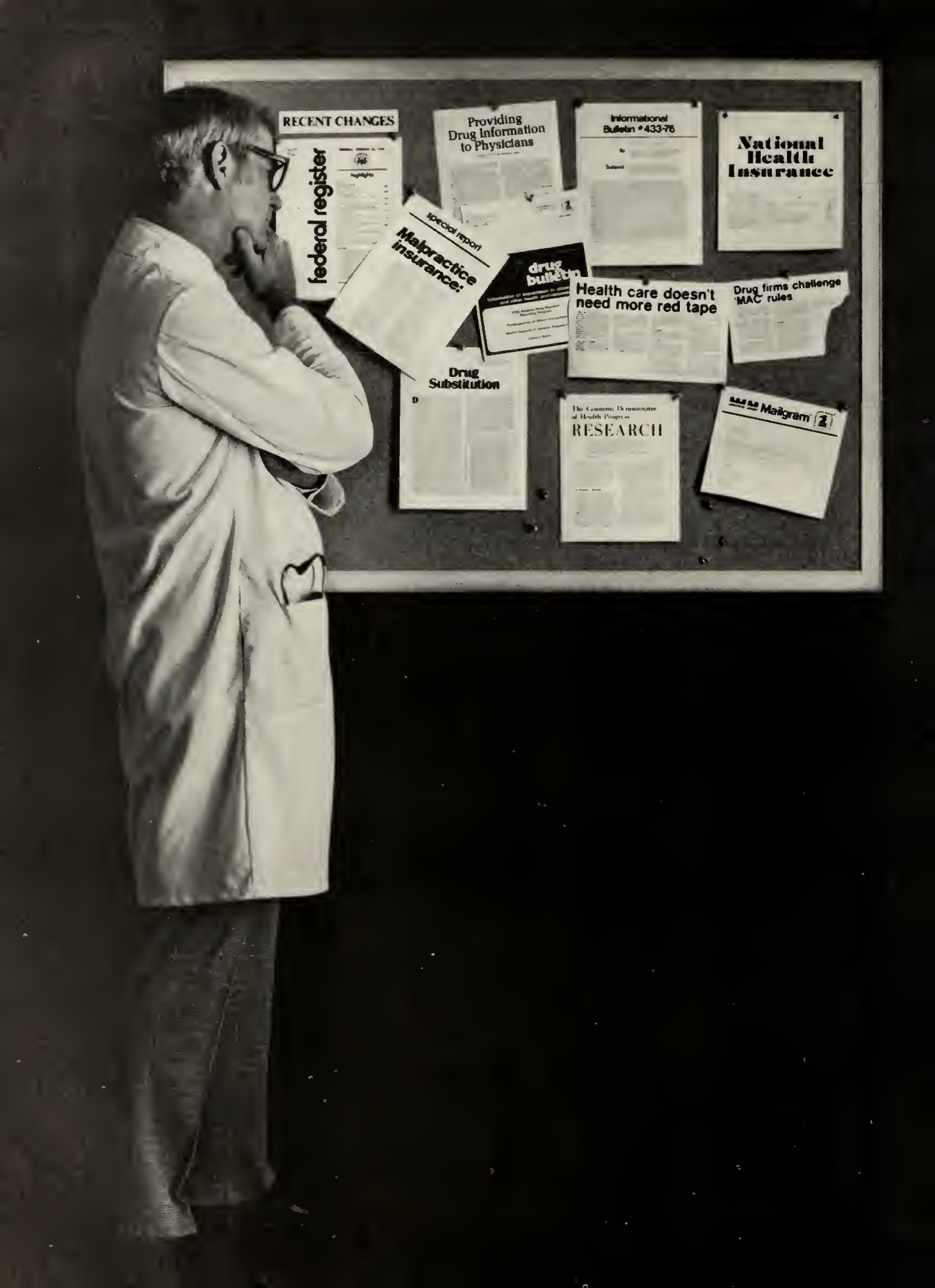
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.

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(Continued from page 406)

age, presently defined as 35 years and over; 4.) a couple at risk for having a child with a hereditary metabolic disease amenable to prenatal diagnosis, e.g., Tay-Sachs disease (more than 60 other biochemical disorders can be diagnosed prenatally); 5.) a couple at risk for having a child with a severe sex-linked recessive disease, such as Lesch-Nyhan Syndrome, or Duchenne-type muscular dystrophy; or 6.) an individual who was born with or has had a child with a neural tube defect, such as meningomyelocele, spina bifida, or anencephaly.

According to a recent prospective collaborative study sponsored by the National Institute of Child Health and Human Development,[5] amniocentesis is both a safe and reliable procedure with diagnostic accuracy of 99.5 per cent. More than 1000 women participated in this study. It was concluded that there was no increased maternal morbidity or mortality and no apparent danger to the fetus compared to a control group. Normal results were obtained in 97 per cent of the families indicating that amniocentesis most often serves as a means of reassurance to parents that their baby will not be affected. In Rhode Island 82 amniocenteses have been performed for prenatal diagnosis since 1972. The majority of them were done in women past the age of 35 and in women with a Down Syndrome child. Analysis of amniotic fluid was done at the Genetics Laboratory at Rhode Island Hospital[6] or at The Miriam Hospital Genetics Laboratory.[7] Normal results were obtained in 78 of these 82 cases. Thus, amniocentesis has served to reassure many couples who otherwise might have been hesitant to have children. In the small percentage of cases where an abnormality is detected, the parents may decide to continue or terminate the pregnancy on the basis of their own feelings and convictions and the information given to them during their counseling.

CONCLUSION

It is a well established fact that many families could benefit from genetic counseling, but less than 25 per cent of them are now receiving this service. We hope that more people will be made aware of its availability in Rhode Island, and that as a result some birth defects may be prevented and families may better understand their risk for inherited disease.

ACKNOWLEDGEMENT

Deborah Phillips for her help in preparing and typing the manuscript.

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[6]Unpublished data from the Genetics Laboratory, Rhode Island Hospital
[7]Unpublished data from The Miriam Hospital Genetics Laboratory kindly provided by Doctor Daniel Perl

HEPATIC INJURY ASSOCIATED WITH QUINIDINE THERAPY

(Continued from page 407)

her hospital stay. LDH also became elevated in the same fashion, rising to 325 on 10/14 and reverting to a normal level of 145 (N 100-225) on 10/20. CPK, although it had risen to 1500 during the patient's episode of myocardial infarction, remained normal during the febrile period. Total bilirubin was not elevated.

Quinidine was omitted on 10/11 when her temperature rose to 103.4°F. The following day she felt better and became afebrile, and her course was uneventful thereafter, despite her persistent SGOT elevation. Following discharge her SGOT reached normal levels, and she had apparently made a complete recovery.

DISCUSSION

As stated previously, quinidine-induced liver disease is quite rare, and its mechanism is not well understood. Possibilities include a hypersensitivity reaction as well as a direct hepatotoxic or cholestatic type of injury. It may, however, be more common than is realized, and, as clinicians become more aware of this possibility, more cases may be recognized. It does appear to be benign in its course, and reversible when the drug is withdrawn. Although two of the four patients previously described had diabetes mellitus, diabetes was not a feature of this case.

This patient is believed to represent an example of hepatotoxicity due to quinidine therapy because of her clinical course, which included fever, anorexia, and weakness, all of which disappeared when quinidine was omitted. In addition, there was laboratory evidence of liver involvement, which also disappeared, although more slowly, following omission of the offending drug. This is believed to be the fifth case of this unusual effect of quinidine thus far reported.

(Continued on next page)

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ONE SENTENCE ESSAY

Codes are written by engineers who do not understand English, are edited by editors who do not understand technology, and are administered by bureaucrats who do not understand either.

. . . Anonymous. Quoted from **Hospitals**, an AHA publication.

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(Continued from page 411)

•Medicare systems related to collection of the Part B premium could be totally eliminated.

•Combining of Parts A and B would permit substantial simplification of Medicare enrollment procedures. Annual open enrollment periods for Part B and determination of late enrollment penalties would no longer be necessary.

•SSI eligibles could carry a special Medicare card (periodically updated) establishing the right to be excused from cost sharing.

•Providers would no longer have to bill two programs for reimbursement of the same services. More satisfactory payment methods could be ensured — for example, periodic interim payments based on prospective budgets.

•Claims payment processes would be simplified and abuses could be more easily monitored.

•Administrative complexities and potential for duplication of payments that now occur in the process of coordinating the reimbursement of the two programs would be eliminated.

•State Medicaid claims loads would be reduced and related administrative procedures simplified. Medicaid monthly case loads of persons eligible for hospital, extended care, and medical benefits would be reduced. All procedures relating to state buy-in would be eliminated, as would other administrative procedures related to enrollment and payment of premiums for these recipients.

COSTS

The most basic of the proposals I have made are (1) the eligibility for hospital and medical services of all persons age 65 and over, and (2) the revised cost-sharing arrangements. Without pricing out at this time the savings to be expected as a result of improved administration, this first part of my proposal would cost about $1.7 billion in 1977 (the assumed first full year of operation). It would, however, be offset by about $300 million savings to the states under the Medicaid program. Moreover, the approximately $1 billion net cost does not take into

account substantial offsetting revenue that would be produced by extending the Medicare payroll tax to cover federal civilian employees.

It may be that the political problems of covering federal civilian retirees and the fiscal climate would inhibit even this first step. In that case, it would be possible to effect the Medicaid realignment of SSI beneficiaries (plus the "caps" for all who have Medicare coverage) at a very modest federal cost and, considering the offset of state savings, almost a net revenue balance. The point is that if one had to severely limit the first stage for fiscal reasons, this realignment is a very low-cost part of the total package.

The most expensive aspect of the package is the elimination of the Part B premium, which would add about $1.8 billion to federal expenditures, offset by approximately $100 million in state savings, or would result in a net effect of about $1.7 billion additional public monies being expended. The other costly items arise primarily from changes in covered services.

CONCLUSION

Moving toward universal health insurance involves basic questions that affect the lives of the American people and the life or death of all the components of our giant health industry. There are important resource problems that have to do with manpower, facilities, planning, and utilization and cost controls that must be addressed before we further stimulate across-the-board demands for services.

What we need is time and a mechanism to develop a long-range plan, consisting of agreed-upon goals over a 10-year period, with staged implementation of steps that will lead to these goals. It is important to retain flexibility so that we do not get frozen into structural arrangements that may not prove adaptable to emerging changes in the delivery environment or in the political and social environment.

It must be a matter of serious concern that we have failed to find a way to engage the best minds in government and in the private sector in a **joint** effort at program planning in the health care field. Much of the national health insurance planning that is being done takes place through confrontation. What we need is an interactive mechanism to develop the policy options that will lead to decisions on plans.

I recognize that the differences of philosophy represented in this confrontation can only finally be resolved in the political arena. However, I propose that serious consideration be given to the establishment of a presidential-level commission under statutory mandate and with full-time membership of public and private policymakers who have had substantial administrative as well as programmatic experience. Such a commission should be appointed to permit representation of both the Administration and the Congress. It would attempt to develop options, and, ideally, a consensus could emerge on some aspects of a long-range blueprint.

A strong Medicare program constitutes one foundation stone — if not the cornerstone — of a future national health insurance program. Improvement of Medicare now is not inconsistent with any reasonable long-range agenda. Our immediate objective, then, should be to make sure that the Medicare

(Continued on next page)

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program becomes comprehensive for the aged and administratively more efficient, so that over the next few years Medicare will not continue to erode but will move vigorously in the direction of providing greater satisfaction to those it now covers. In so doing, we will be making important contributions toward the ultimate solution of systems and medical care delivery problems that seem to loom as obstacles to the early implementation of a national health insurance program.

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REMARKS OF THE PRESIDENT OF BLUE SHIELD OF R. I.

(Continued from page 412)

October of last year claims expenses began far to exceed projections and have continued at a higher than estimated level. Another rate increase request is being prepared, and will be filed with the State as soon as possible. The objective of that rate filing will be to recover losses and to arrive at a reasonable reserve level.

Physician fee increases, based on the pragmatic statesmanship of the profession as a whole and the reasonableness of individual physicians, have been far less than fee increases in other parts of the nation and have been lower than the overall rate of inflation in the economy. This concern and restraint by physicians is a credit to the medical profession in Rhode Island.

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The Blue Shield record is a strong one, built on performance and public confidence, and the corporation is well equipped to weather the financial storm that faces it at this time.

As part of my message I want to urge physicians to recommend and use whenever possible levels of treatment for patients that represent lower costs of providing care, such as home care, pre-admission testing, surgicenters, skilled nursing homes, and others. The continued prudent prescribing of care by physicians is an important cornerstone of the Blue Shield program.

The complexities of the pre-paid health care business continue to mount each succeeding year. Blue Shield undergoes an increasing number of audits by regulatory authorities and by representatives of federal health care programs administered by the Plan. New regulations are about to be issued by the Director of Business Regulation, as a requirement under the Catastrophic Health Insurance Program (CHIP), which will spell out regulations for all health insurance carriers. We have been working with the Director on this subject, as we have been meeting with him on a number of matters directly relating to the operation of the Health Plans. He has been understanding, available for discussion, and helpful within the bounds of his office and responsibilities.

The depth and breath of the Blue Shield operations provide many more subjects appropriate for in-depth discussion, but I did want to keep my remarks short and limited to those general subjects which combine to make up the basic elements of the Blue Shield program.

On behalf of our entire staff I thank members of the Blue Shield board of directors, members of the various committees that provide such a valuable assist to the staff, and to each and every person in the state who has in any way contributed to the success of our Blue Shield Plan, which is so highly regarded nationally and locally.

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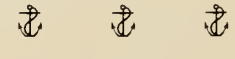

ANNUAL REPORT OF THE CHAIRMAN OF THE BOARD OF BLUE SHIELD OF R. I.

(Continued from page 414)

Some responsible critics have expressed the opinion that in some manner Blue Shield would perform better and be more responsive to the subscriber's needs if the number of non-physicians on our board was increased. Our performance record, high physician participation, and excellent subscriber enrollment would indicate that this is not so. The relationship between physician and non-physician on the board has been outstanding, and together we have worked effectively in meeting the needs of our subscribers. Nevertheless, I am truly fearful that failure to change our board structure will invite legislation which would radically change the structure of Blue Shield.

If changes such as have been previously introduced in the legislature were to be enacted, they would have a devastating effect on physician participation, thereby weakening the Plan and ultimately work to the disadvantage of the subscriber. I hope that this corporation will support the recommendation of its board on this matter.

The fourth interacting force affecting Blue Shield is the Department of Business Regulation which regulates our Plan's premiums. Over the past several years we have witnessed a gradual chipping away at the reserve level so important to the financial stability of our Plan. Most recently the reserve level granted was further reduced to just 15 days. The recommended safe reserve as determined by NABSP is a three month level.

There has been a remarkable increase in utilization of physicians' services in the recent past as compared with previous years. Some of this increase is due to the introduction of new procedures. A considerable amount of the increase, however, can be attributed to the use of many more expensive laboratory, x-ray, and other diagnostic procedures as defensive measures against malpractice suits. Recent court decisions such as the "Kelleher Decision" in our own state, which requires the use of all available diagnostic procedures in reaching a diagnosis, have had an important impact on the cost of medical care.

This increasing utilization and the narrow reserve permitted by the Director of Business Regulation (DBR) now necessitates increasingly frequent rate filings for the Blue Shield Plan. Each filing is an expensive procedure which requires the time and efforts of the administrative and legal staffs for several weeks for each filing. This added expense of operations is not required of competing commercial health insurers. The situation is somewhat like that of a man who is driving a distance requiring 20 gallons of gasoline, but is allowed only one gallon of gas in his tank at a time. Because of the necessity of frequent stops to replace his one gallon reserve, he uses more gas than he would if he were allowed to fill his tank with the needed 20 gallons. Not only does he use more gas, but it takes him longer to reach his destination.

The DBR is charged with the responsibility to protect "the interest of the public." Like other politically appointed governmental agencies, it must make it apparent to the public that it is fulfilling this obligation. This has been demonstrated traditionally by a reduction in rate increases requested. But this responsibility extends beyond the reduction of rate increases. The Department's charge also includes assuring the financial stability of the Plan, a matter obviously in the best interest of our subscribers. The sincerity of the DBR is beyond question, but the ultimate savings to the public of maintaining only a 2-week reserve is indeed questionable. In several states recently the minimum reserve of non-profit health Plans has been set by sta-

(Continued on next page)

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tute. Perhaps we may need to investigate a similar approach to the problem here.

I have recounted to you how I perceive the condition and the position of Rhode Island Blue Shield today.

I hope this corporation will continue to support the board in its sincere effort further to increase public confidence, maintain the support of physicians, work in harmony with the administrative staff, and continue to strive for a more stable financial structure for Blue Shield in the coming year — all in the interest of the 760,000 subscribers whom we serve.

444 Westminster Street
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⚓ ⚓ ⚓

ONE SENTENCE ESSAY

Graffito Seen on Wall Near Brown University:

"Jimmy Carter is a Moony."

. . . **Anonymous**

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MAX BLOOM, the American College of Cardiology Governor for Rhode Island, listed JACK H. KLIE as a new Fellow of the American College of Cardiology. Doctor Klie was among a group of 98 from the United States and Canada recently admitted to the College's highest membership classification.

* * *

Nurses and other medical professionals joined radiation therapy technologists from many parts of the country in attending "Concepts of Cure," a seminar presented recently by the Department of Radiation Oncology at Rhode Island Hosp. ARVIN GLICKSMAN, Chairman of the Department, in his presentation 'The Concept of Cure" spoke of recent advances which make possible an exquisite level of precision in tumor localization, simulation, and treatment.

MELVIN TEFFT, radiotherapist, spoke of the need to deal with "second level" questions in his presentation "Radiation Induced Problems of the Cured Patient." BANICE WEBBER, also a radiotherapist, spoke on "The Combination of External Radiation and Brachytherapy in Cancer Management."

* * *

BANICE FEINBERG and MILTON HAMOLSKY were honored by the Rhode Island Heart Association at a dinner meeting May 26. Doctor Feinberg received recognition as one of the founders of the organization, which is celebrating its 35th anniversary. He has served on the board of directors since it was founded and is now its honorary president. Doctor Hamolsky was honored by the Heart Association as "scientist, humanitarian, and friend." He has served for several years on the Association's board of directors.

⚓ ⚓ ⚓

Rhode Island Medical Journal

October, 1976 Vol. 59, No. 10

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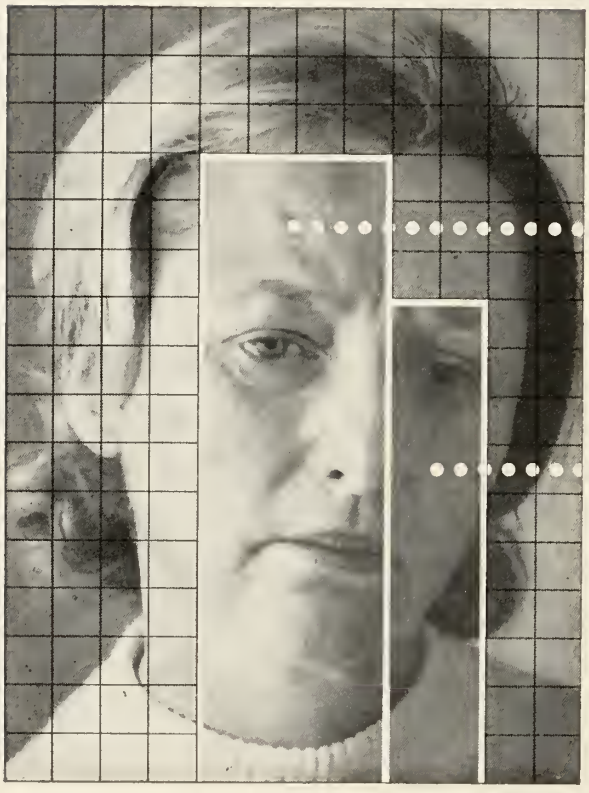

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

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respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Rhode Island Medical Journal

OCTOBER, 1976 VOLUME 59, No. 10

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NEWSLETTER . . . October, 1976

THE RHODE ISLAND MEDICAL SOCIETY

Frank W. Sullivan Named President-Elect

At its meeting of October 6, 1976 the House of Delegates of the Rhode Island Medical Society elected Doctor Frank W. Sullivan as president-elect to fill the vacancy created by the untimely death of Doctor Thomas F. Head. Doctor Sullivan has been treasurer of the Society since 1974 and will now be succeeded in that capacity by Doctor Melvyn M. Gelch.

Doctor Sullivan's association with the Medical Society has been highlighted by innumerable activities including the following most recent examples: Commissioner of Public Health, 1973-1974, member of the Mediation Committee since 1971, member of the Ad Hoc Committee for Interprofessional Code of Ethics 1974-76, Rhode Island Medical Society Representative to the Governor's Task Force III, member of the Board of Directors of the medical malpractice Joint Underwriter's Association 1975-1976, delegate to the Rhode Island Medical Society House of Delegates since 1973, and member of the Executive Committee of the Providence Medical Association since 1973.

Doctor Sullivan is certified by the National Board of Medical Examiners and the American Board of Psychiatry and Neurology. He is a Fellow of the American Psychiatric Association (APA) and has received two certificates of commendation from the APA for chairmanship of the Ad Hoc Committee on PSRO in 1974 and chairmanship of the Task Force on Peer Review in 1975. Other APA activities include: Chairman of the Commission on Standards of Practice and Third Party Payment, Faculty of the 3rd and 4th APA Institute on Government Relations in Washington, D.C., APA Witness before the U.S. House of Representatives Subcommittee on Retirement and Employment Benefits October 8, 1974, and manuscript reviewer for the *American Journal of Psychiatry*. Doctor Sullivan is also a Consultant to the U.S. Department of Defense, CHAMPAS Ambulatory Review Program for the National Institute of Mental Health.

He is a member of the board of directors of RIPSRO and a member of its Technical Service Arm Committee. His papers published in national journals and presented before national organizations qualify Doctor Sullivan as an authority on PSRO, peer review, and medical ethics in general and particularly in the area of psychiatric services.

A Texas native, Doctor Sullivan was educated in the state of Washington and finally settled in Cranston in 1967. He maintains a private practice in general psychiatry and is on the attending staff of Rhode Island Hospital and Butler Hospital. He holds appointments as clinical professor of psychology at the University of Rhode Island and assistant clinical professor of psychiatry in the Brown University Program in Medicine.

Doctor Frank W. Sullivan

HOUSE HIGHLIGHTS

AMA Delegates Elected

John J. Cunningham, M.D. of Pawtucket and Herbert F. Hager, M.D. of Providence were elected as AMA delegate and alternate delegate, respectively, for the term from January 1, 1977 to December 31, 1978.

Blue Shield Board Member

H. Gerald Rock, M.D. of Kent County was elected to the Blue Shield Board of Directors.

New Commissioner

Anthony F. Merlino, M.D. of Providence was elected a Commissioner of the Rhode Island Medical Society.

Benevolence Fund Trustee

Meyer Saklad, M.D. of Providence was elected as a Trustee to the Society's Benevolence Fund.

Resolution Adopted

A Resolution introduced by Paul J. M. Healey, M.D. of Pawtucket was adopted; the resolved portion of which reads: "that the Rhode Island Medical Society endorses the concept of free standing ambulatory surgical units within the state of Rhode Island for the benefit of all its citizens."

IN MEMORY OF THOMAS F. HEAD, M.D.

Doctor Head, one of the most active and concerned physicians in Rhode Island, passed away on July 12, 1976 in his 50th year. He was director of obstetrics and gynecology at St. Joseph's Hospital and president-elect of the Rhode Island Medical Society at the time of his death.

A graduate of Providence College, he received the school's Mal Brown Award in 1971 as the outstanding Providence College alumnus of the year. He was a past president of the Thomistic Guild of Doctors of Providence College.

Doctor Head graduated from Jefferson Medical College in 1949. His post graduate work included an internship at St. Joseph's Hospital and a residency at Margaret Hague Maternity Hospital in Jersey City, New Jersey and at the University of North Carolina's Memorial Hospital. While serving as a lieutenant in the Navy Medical Corps, he became head of obstetrics and gynecology at the Navy Hospital at Camp Lejeune, North Carolina.

In the course of his professional career, Doctor Head held the following offices: Speaker of the House of Delegates of the Rhode Island Medical Society, president of the Providence Medical Association, president of St. Joseph's Hospital Staff, and member of the boards of directors of Blue Shield of Rhode Island and of Rhode Island Professional Standards Review Organization.

He was a fellow of the American College of Surgeons and a member of the American Medical Association, the Rhode Island Historical Society, the corporation of Providence College, the American Fertility Society, the Robert A. Ross Gynecological Society, the Sacres Obstetrical Society, the New England Obstetrical and Gynecological Society, the Sons of Irish Kings, the Dunes Club of Narragansett, and the Point Judith Country Club.

The Secretary Reports On Council Activities

The Council has held two regular meetings (June 7, and September 13, 1976) and one special meeting (May 3, 1976) since the previous published report. The following constitute major actions taken:

Approval was given of the President's appointment of Howard S. Browne, Jr., M.D. of Newport as Trustee-at-large to the Board of Trustees of the Medical Library for 1977.

The Council was informed that the Society's Annual Meeting will be held on Wednesday, May 11, 1977 at the Cranston Hilton Inn.

The Council commended Doctor John Ham for his dilligent efforts as Chairman of the Mediation Committee during the past year.

The Council approved of the appointment of Doctor A. A. Savastano as the new Chairman of the Mediation Committee and Doctor Julius Stoll, Jr. to fill a vacancy on the committee.

The Council commended Doctor Stephen J. Hoye for his superb leadership during his year as President which was made more difficult and time consuming by the malpractice crisis.

The Council commended Doctors David M. Barry, Leroy S. Chapnick, Herbert F. Hager, Stephen J. Hoye, and Anthony F. Merlino for their outstanding work on the Governor's Commission on Malpractice.

The appointment of Doctor Frank W. Sullivan as the Rhode Island Medical Society representative to the Council of New England Medical Societies was approved.

The Council commended Doctor George Waterman for his outstanding efforts on behalf of the Society and its Benevolence Fund.

Establishment of an Ad Hoc Committee on Budget and Finance was approved by the Council.

The Council approved the reappointment of Doctors Stephen J. Hoye and Stanley D. Simon as the Society's representatives to the Search Board of Directors.

(Continued on page 4)

House Elects Doctor Gelch Treasurer

Doctor Melvyn M. Gelch was elected as treasurer of the Rhode Island Medical Society at a meeting of the House of Delegates held October 6, 1976. He succeeds Doctor Frank W. Sullivan, a Cranston psychiatrist, who was named as the new president-elect.

Doctor Gelch is a native of Brooklyn, New York and a graduate of Johns Hopkins University and Harvard Medical School. After serving an internship at the First (Columbia) Division Bellevue Hospital in New York City, Doctor Gelch served residencies in surgery and neurosurgery at Bellevue, Tufts-New England Medical Center Hospital, and Rhode Island Hospital. Other post graduate work included a year as a Medical Officer in the U.S. Navy and a year as a research fellow in neurosurgery at Tufts-New England Medical Center Hospital.

Now a resident of Providence, Doctor Gelch holds the following positions: associate surgeon in neurological surgery at Rhode Island Hospital, clinical instructor in neurological surgery at Tufts Medical School, certified member of the American Board of Neurological Surgery, Fellow and member of the Rhode Island Advisory Committee of the American College of Surgeons.

Appointed Committees for 1976-1977

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Secretary's Report

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Establishment of an Ad Hoc Committee on Standards and Credentials was approved by the Council.

Doctor William J. MacDonald was lauded by the Council for the outstanding representation he has given the Society in the AMA House of Delegates.

The Council approved the appointment of Doctor Stephen J. Hoye to the Governor's Permanent Commission on Malpractice.

License Renewal

Several extraneous questions have been included with this year's Licensing Forms. The only information you are REQUIRED to provide is your name and preferred mailing address. All other information is STRICTLY VOLUNTARY.

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CONTINUING MEDICAL EDUCATION CALENDAR

NOVEMBER

3 "INFECTIONS IN THE OBSTETRIC AND GYNECOLOGIC PATIENT." Topics will include: "Anaerobic Infections," Sherwood L. Gorback, M.D., Professor of Medicine, Division of Infectious Diseases, Tufts University School of Medicine, "Antimicrobial Agents," John G. Bartlett, M.D., Associate Professor of Medicine, Division of Infectious Diseases and Internal Medicine, Tufts University School of Medicine; "History of Shock in the Infected Patient," Fiorindo Simeone, M.D., Professor Emeritus of Medical Science, Brown University Program in Medicine. Also, "Pathophysiology of Shock and Pulmonary Failure in the Infected Patient," Carl Teplitz, M.D., Associate Professor of Medical Science, Brown University; "Management of Shock Associated with Infection," Watts R. Webb, M.D., Professor and Chairman, Department of Surgery, State University of New York, Upstate Medical Center; "General Considerations of the Fetus as the Recipient of Antimicrobial Agents," Karlis Adamsons, M.D., Ph.D., Professor and Chairman of Obstetrics and Gynecology, Brown University. Cranston Hilton Inn, 9:00 a.m. For information, contact Dr. Bertram Buxton, Women and Infants Hospital.

3 JOHN F. KENNEY RESEARCH DAY, Annual Program of The Memorial Hospital Medical Staff. Further information will be forthcoming.

4 PERSPECTIVES ON RAPE. "Child Sexual Assault: Victim and Offender," Ann Wolbert Burgess, R.N., D.N.Sc., Professor and Coordinator, Graduate Program in Community Health Nursing, Boston College; and A. Nicholas Groth, Ph.D., Boston College, former Chief Psychologist at the Massachusetts Center for the Diagnosis and Treatment of Sexually Dangerous Persons.

10 ALLENDALE BURNS SYMPOSIUM on "Recent Advances in Burn Therapy," presented by the Brown University Program in Medicine. Topics will include: "Fluid Therapy, Pathogenesis and Rationale," Dr. Charles L. Fox, Jr., Professor of Microbiology (in Surgery), Columbia University College of Physicians and Surgeons; "Clinical Methods of Resuscitating Severely Burned Patients," Dr. William W. Monafo, Chief of Department of Surgery and Director of Burn Unit, St. Johns Mercy Medical Center, St. Louis University School of Medicine; "Topical Control of Infection and Use of Auto, Allo and

Xeno Grafts," Dr. Martin C. Robson, Associate Professor and Chief of Plastic and Reconstructive Surgery, Director of Burn Center, University of Chicago; "Use of Auto, Homo and Heterographs," Dr. Jerry M. Shuck, Professor of Surgery, University of New Mexico, Director of Burn and Trauma Unit, University of New Mexico, Albuquerque, New Mexico; "The Treatment of the Burned Hand," Dr. H.D. Peterson, Chief Clinical Division, U.S. Army Institute of Surgical Research, Brooke Army Medical Center, Fort Sam Houston, Texas; "Management of Burns in Children," Dr. James R. Lloyd, Director, Burn Unit, Children's Hospital of Michigan, Clinical Assistant Professor of Surgery, Wayne State University School of Medicine; "Audiovisual Methods for Teaching Burn Care to House Staff," Dr. Bruce MacMillan, Chief of Staff, Shriners Burns Institute, Cincinnati Division, Shrine Professor of Surgery, University of Cincinnati Medical Center; "Treatment of Burns in Rhode Island," Doctors Arnold M. Porter, Clinical Professor of Surgery; Richard P. Sexton, Clinical Assistant Professor of Surgery; Armand D. Versaci, Clinical Assistant Professor of Surgery, Brown University Program in Medicine.

9:00 A.M.-4:30 P.M., Cranston Hilton Inn, Cranston, Rhode Island. There is no tuition, but registration must be made in advance. Write to the Office of Continuing Medical Education, Brown University Program in Medicine, Box G, Providence, Rhode Island 02912 or call 863-3337.

11 PERSPECTIVES ON RAPE. "Rhode Island Rape Law: Legal Problems for the Victim," Judith Romney Wegner, Special Assistant Attorney General, State of Rhode Island. "Rhode Island Rape Law: Legal Problems for the Accused," Stephen J. Fortunato, Jr.

12 "IS THE STUDY OF RARE DISEASE RELEVANT?" Dr. Alfred M. Bongiovanni. Professor of Pediatrics, University of Pennsylvania. Combined Pediatric Teaching Rounds, Brown University Section of Reproductive and Developmental Medicine and Roger Williams General Hospital, 10:30 a.m. to 12:00 p.m., Kay Auditorium, Roger Williams General Hospital. Further information will be forthcoming.

13 "MEDICAL TREATMENT OF CUSHING'S DISEASE," James C. Melby, M.D., Professor of Medicine, Boston University Medical School, and Head, Section of Endocrinology and Metabolism, University Hospital, Boston. George Auditorium, Rhode Island Hospital, 10:00 a.m. to 12:00 p.m., following informal rounds at 9:00 a.m. Further information will be available from the Hospital.

17 "THROMBOSIS, EMBOLISM AND COAGULATION," William Corvese, M.D., Clinical Assistant Professor of Surgery, Brown University. Rhode Island Hospital Basic Science Lecture Series.

18 "SYMPOSIUM ON HOSPITAL ASSOCIATED INFECTIONS," sponsored by the New England Association for Practitioners in Infection Control. The Cranston Hilton Inn, Cranston. Further information will be forthcoming.

20 "TRENDS IN AMBULATORY SURGERY," Annual Symposium of the Brown University Section of Surgery and Rhode Island Chapter, American College of Surgeons. "CHANGE IN REPAIR OF GROIN HERNIA," J. Robert Burns, M.D.; "THE FREE STANDING AMBULATORY SURGERY UNIT," Paul J. M. Healey, M.D.; "ONE YEAR'S EXPERIENCE AT A COMMUNITY BASED ACCIDENT UNIT," Robert J. Botts, M.D.,; and "POTENTIAL COST SAVINGS WITH FULL UTILIZATION OF AMBULATORY SURGERY," Preston Jordan, Rhode Island Blue Cross. A panel of the speakers and Dr. Joseph E. Cannon of the Rhode Island Department of Health will also be included. 9:00 a.m., George Auditorium, Rhode Island Hospital. Further intormation will soon be available.

23 "PURPURA: IT'S CAUSES AND TREATMENTS," Dr. Philip Lanzkowsky, Professor of Pediatrics, School of Medicine, State University of New York at Stony Brook. George Auditorium, 10:00 a.m. to 12:00 p.m. Further information is forthcoming.

24 "OSTEOPOROSIS, GOUT AND CRYSTAL DISEASE," Stephen R. Kaplan, M.D., Associate Professor of Medicine, Brown University Program in Medicine. Rhode Island Hospital Basic Science Lecture Series.

DECEMBER

1 MAURICE N. KAY PEDIATRIC SYMPOSIUM: CURRENT ADVANCES IN PEDIATRIC DIAGNOSIS AND THERAPY, Moderator, Leo Stern, M.D., Professor and Chairman of Pediatrics, Section of Reproductive and Developmental Medicine, Brown University Program in Medicine; "The Child with Stridor," John S. Dunbar, M.D., Professor of Radiology and Pedatrics, University of Cincinnati College of Medicine, Director, Division of Roentgenology, Children's Hospital Medical Center, Cincinnati; "The Changing Face of Adolescence," Leon Eisenberg, M.D., Maude and Lillian Presley Professor of Psychiatry, Harvard Medical School; Senior Associate in Psychiatry, Children's Hospital Medical Center, Boston; "Treatment of the Newborn and Young Child: The Importance of Drug Dosage," Allan H. Neims, M.D., Ph.D., Director, Roche Developmental Pharmacology Unit, Associate Professor of Pharmacology and Pediatrics, McGill University, Montreal; "Diagnosis and Therapy of Patients with Defects in the Inflammatory Response," Paul G. Quie, M.D., Professor of Pediatrics, American Legion Memorial Heart Research Professor, University of Minnesota, Minneapolis.

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The Rhode Island Hospital House Officers' Association has created a Milton W. Hamolsky Teaching Award in Medicine, established to honor excellence in the teaching of house officers and commitment to the training of physicians as exemplified by MILTON W. HAMOLSKY.

EDWARD IANNUCCILLI and SIDNEY BRAMAN were selected as the 1976 recipients. The House Officers' Association presented its Teaching Award in Pediatrics to JAY ORSON and JOHN O'SHEA and its Teaching Award in Surgery to JOHN LAWLOR.

Doctor Hamolsky also received an award as an outstanding teacher from another group this summer: the new graduates of the Brown University Medical Program. Other Rhode Island Hospital Physicians who received the award were SIDNEY BRAMAN (for the second consecutive year), EDWARD FORMAN, and ROBERT SCHWARTZ.

* * *

ROBERT CAPONE, director of the Coronary Care Unit at Rhode Island Hospital and an assistant professor of Medicine at Brown, has been named an American Heart Association Teaching Scholar. This honor, given to only three people across the country, covers a period of five years.

(Continued on page 472)

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Books Received For Review

The Editor acknowledges the receipt of the following books and thanks the publishers for sending them. We shall have as many as possible reviewed. The volumes are greatly appreciated and will be added to the Library's collection where they will be available to readers.

Ciba Foundation Symposium 38 (n.s.) LUNG LIQUIDS. Amsterdam, Elsevier/Excerpta Medica, 1976.

HELP YOUR DOCTOR HELP YOU by Walter C. Alvarez, M.D. Millbrae, California, Celestial Arts, 1976. $4.95

REVIEW OF MEDICAL PHARMACOLOGY by Frederick H. Meyers, M.D.; Ernest Jawetz, Ph.D., M.D.; and Alan Goldfien, M.D. Los Altos, California, Lange Medical Publications, 1976. $12.50

PLAGUES AND PEOPLES by William H. McNeill. Garden City, New York, Anchor Press/Doubleday, 1976. $10.00

SO GET ON WITH IT by Marilee Weisman and Jan Godfrey. Garden City, New York, Doubleday & Co., Inc., 1976. $8.95

GANJA IN JAMAICA The Effects of Marijuana Use by Vera Rubin and Lambros Cokitas. Garden City, New York, Anchor Press/Doubleday, 1976. $2.95

BASIC AND CLINICAL IMMUNOLOGY by H. Hugh Fudenberg, M.D., Daniel P. Stites, M.D., Joseph L. Caldwell, M.D., and J. Vivian Wells, M.D. Los Altos, California, Lange Medical Publications, 1976. $12.50

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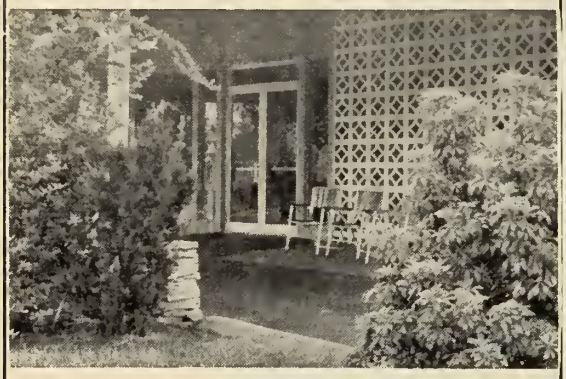

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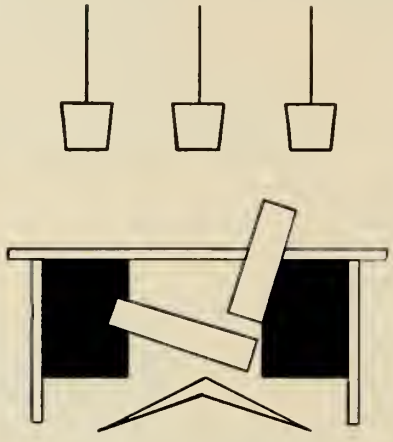

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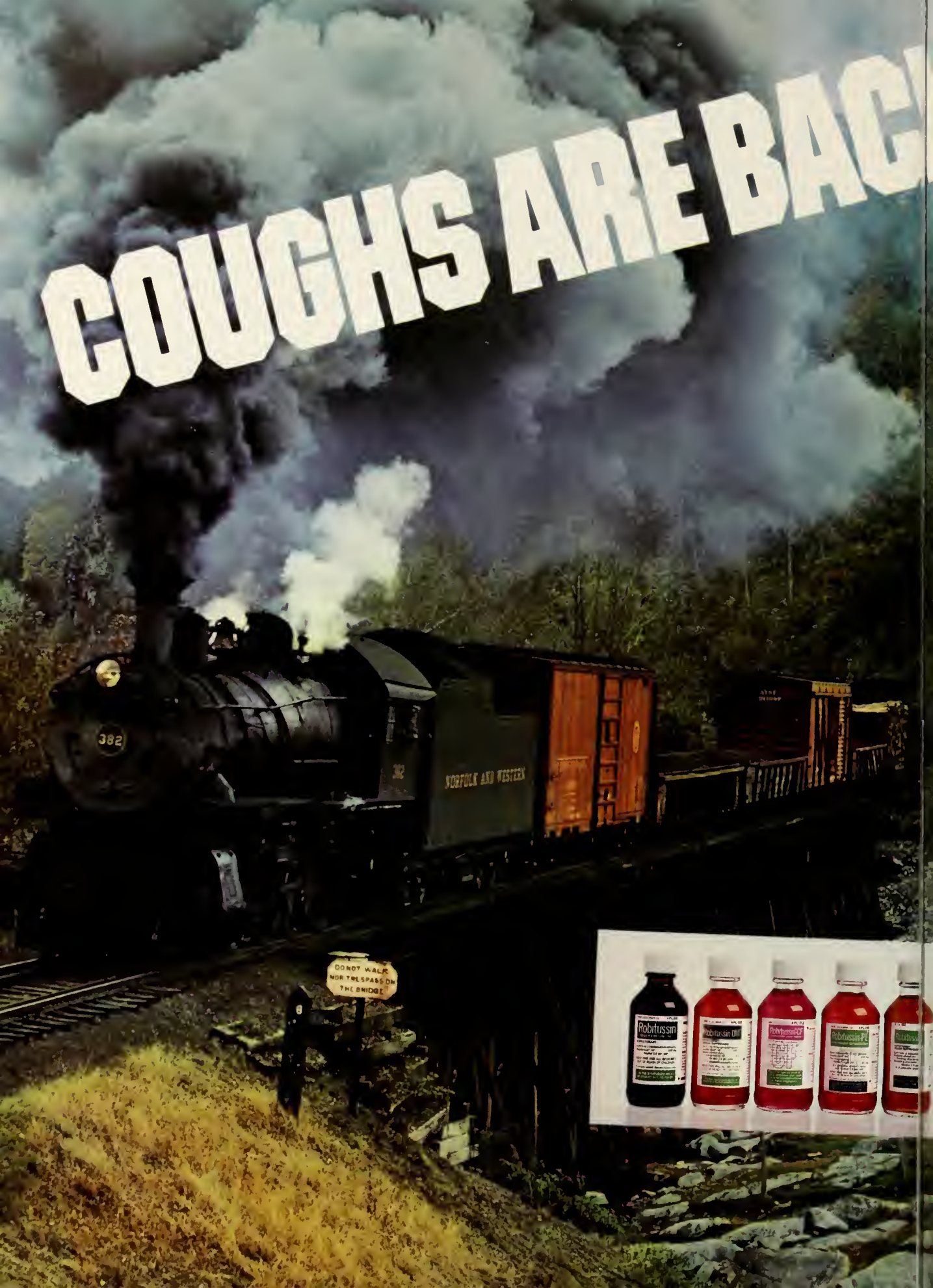
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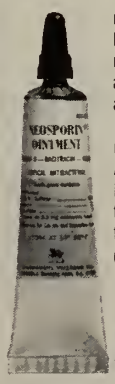

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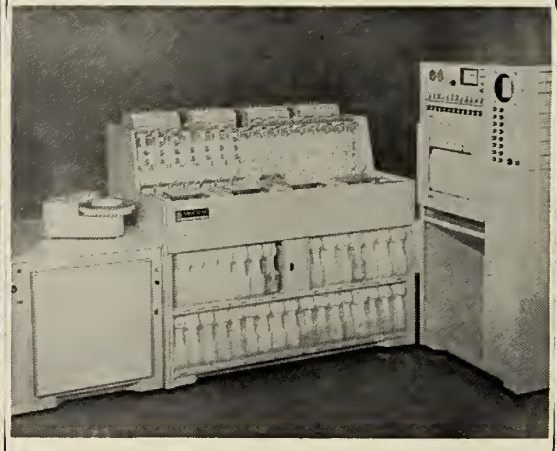

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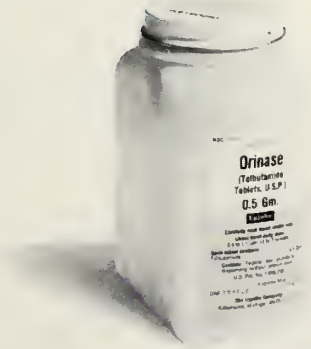

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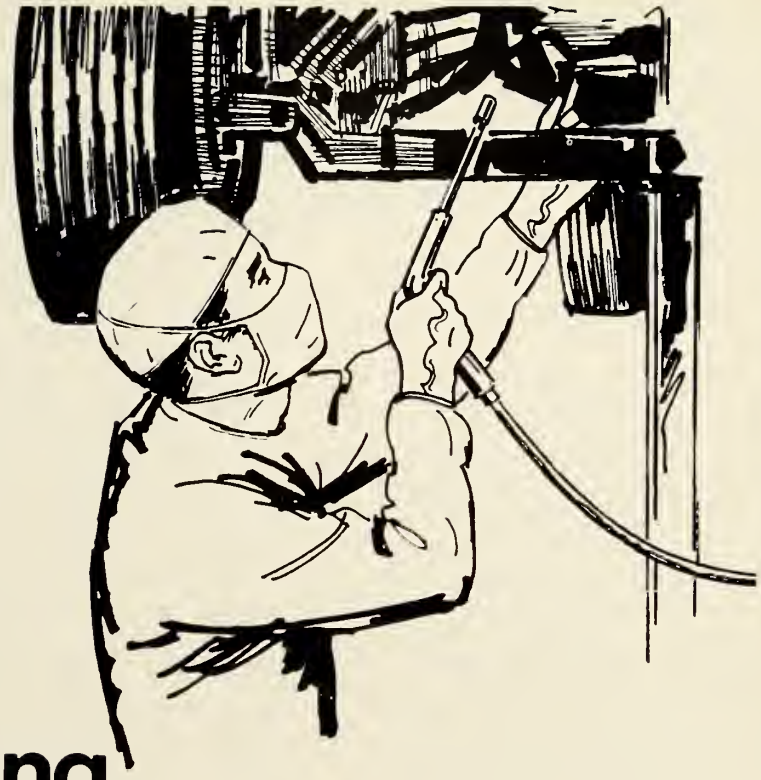

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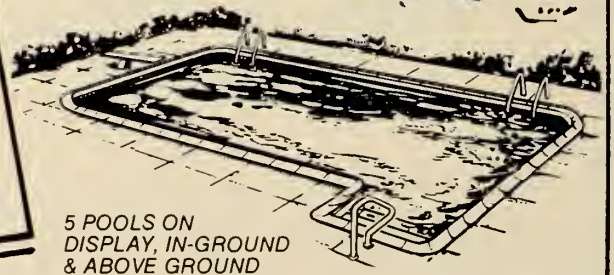

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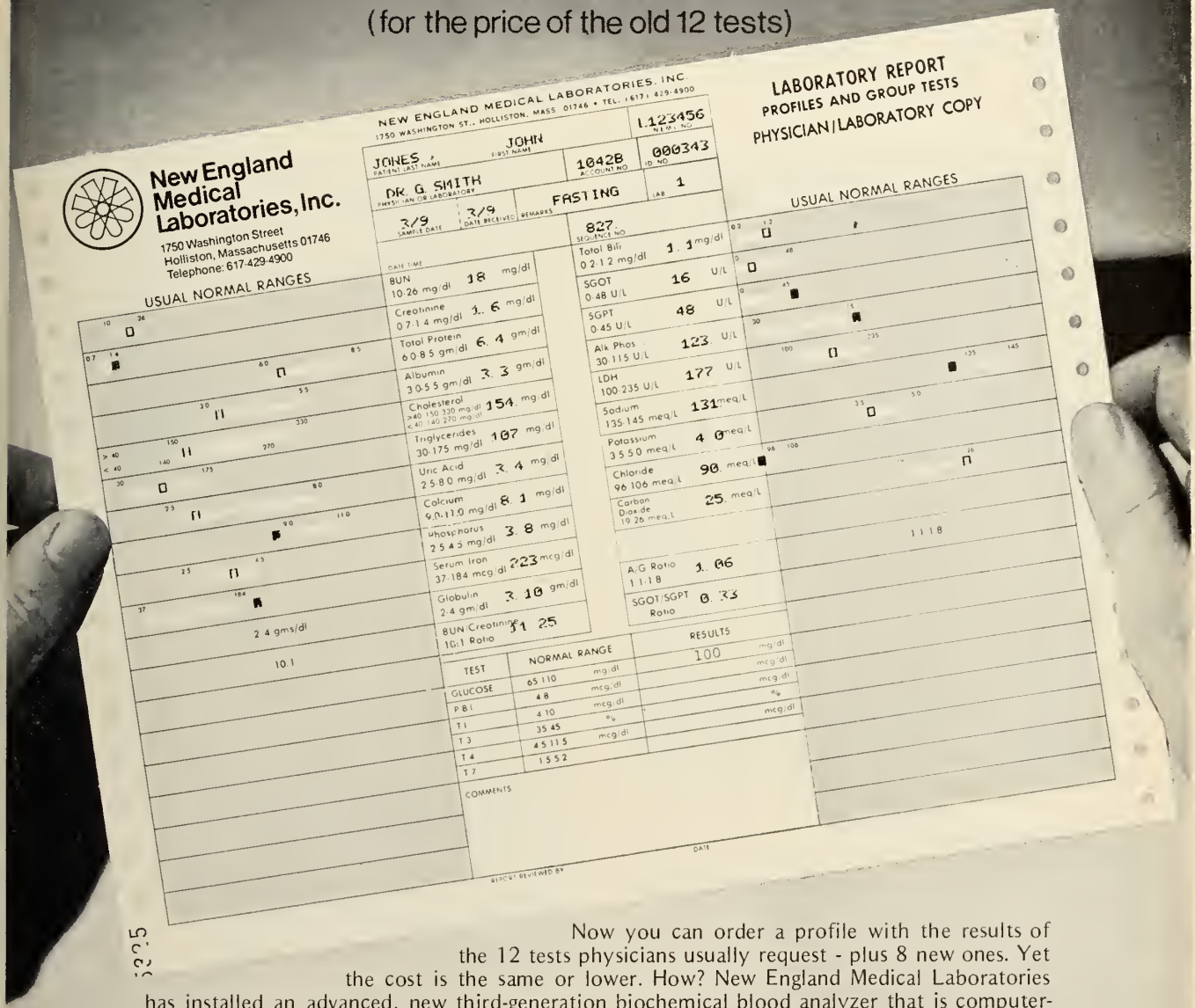

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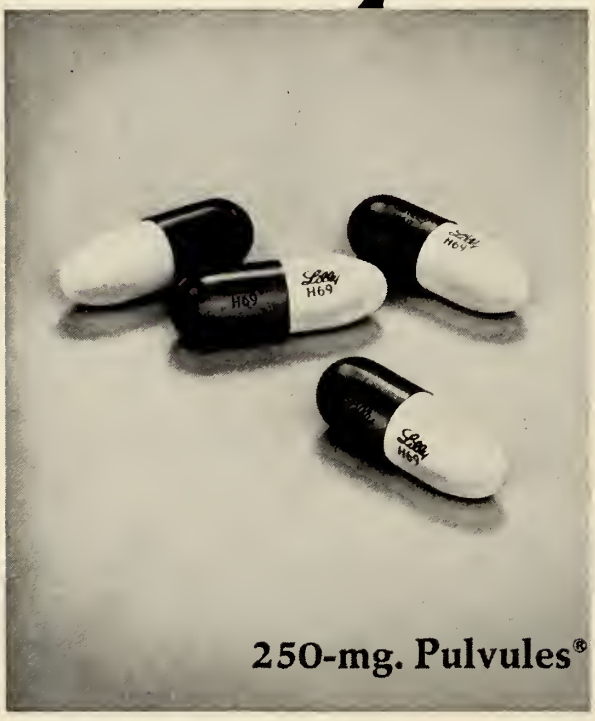

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Amyloidosis

Disturbances In Immunoregulatory Mechanisms May Be An Important Step In The Pathogenesis Of Amyloid Disease

By Alan S. Cohen, M.D., Alan Rubinow, M.D., and Don L. Goldenberg, M.D.

Amyloidosis is an extracellular deposition of the fibrous protein, amyloid, in one or more sites of the body. It is important to rheumatologists, since it is a complication of 5-15 per cent of patients with rheumatoid arthritis and can complicate any other systemic connective tissue disease. In addition, it is of interest to immunologists due to its chemistry, and perhaps to all of us since it has been shown that with aging small plaques of amyloid are almost universally present in our brains and hearts! The term "amyloid" (starch-like) was originally coined in 1854 by Virchow who was convinced of its resemblance to starch or cellulose. Later, Meckel discovered that the lardaceous "changes" were present in many organs in addition to the liver, spleen, and kidneys. Thereafter, amyloid occupied only the attention of pathologists who described its distribution and attempted to ascertain its chemical structure and pathogenesis. The advent of the Congo red test and later widespread use of biopsy tissue from suspected organs stimulated an increased awareness of amyloidosis in clinical practice.[1, 2]

In recent years interest in amyloid has escalated considerably. Application by a wide variety of scientific disciplines of modern laboratory techniques have contributed to a greater understanding of the complex factors involved in its formation and to an understanding that it is of major importance as a connective tissue disease, in aging, and in immunology.[3–5]

(Continued on next page)

ALAN S. COHEN, M.D., *Conrad Wesselhoeft Professor of Medicine, Boston University School of Medicine; Director, Thorndike Memorial Laboratory, and Chief of Medicine, Boston City Hospital.*

ALAN RUBINOW, M.D., *Clinical and Research Fellow, Boston University School of Medicine; and Clinical Fellow in Medicine, Boston City Hospital.*

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From the Thorndike Memorial Laboratory and Department of Medicine, Boston City Hospital; and Arthritis and Connective Tissue Disease Section, Department of Medicine, Boston University Medical Center.

These investigations were supported by grants from the U.S. Public Health Service National Institute of Arthritis and Metabolic Diseases (AM-04599 and T1-AM-5285), from the General Clinical Research Centers Branch of the Division of Research Resources, National Institutes of Health (RR-533), and the Massachusetts Chapter of the Arthritis Foundation, from the Arthritis Foundation and from the John A. Hartford Foundation.

Lecture at Rhode Island Hospital on April 24, 1976 sponsored by the Rhode Island Hospital House Officers' Association.

CLASSIFICATION

Many authors in the past organized the classification of amyloidosis on the basis of specific organ involvement. Therefore, patients with heart, gastrointestinal tract, skin, nerve, and tongue involvement were considered to have primary amyloidosis, while those with liver, spleen, kidney, and adrenal involvement were considered to have secondary amyloidosis. It is now clear that amyloid deposition can involve any organ irrespective of its type. Furthermore, routine stains are not able to distinguish "types" of amyloidosis. Most authors currently classify amyloidosis on the basis of associated disease, i.e. amyloid with associated disease is secondary. With the recent studies reporting progress in delineating the chemical composition of the amyloid fibril in the various types of amyloidosis, a more exact immunochemical classification will soon be possible.

Primary and multiple myeloma-associated amyloidosis. The diagnosis of primary amyloidosis and multiple myeloma associated amyloidosis is being made with increasing frequency. This is due partly to the widespread use of routine immunochemical analysis of serum and urine and also to the histopathologic examination of biopsied tissues.[3, 6] Primary amyloid and myeloma-associated amyloid have many similarities, but differ in that fewer of the primaries have M components, in that they do not have proliferation of immature plasma cells in their marrow, and in that the median survival is about four times as long as myeloma associated amyloid.

Certain clinical features should alert the clinician to the diagnosis of primary amyloid. Protein in the urine, peripheral neuropathy, [7] orthostatic hypotension,[8] cardiomegaly, enlarged tongue, purpura, malabsorption, hepatomegaly, [9] or carpal tunnel syndrome are frequent manifestations. Some laboratory abnormalities which are found in amyloidosis include protein in the urine, Bence Jones proteinuria, an elevated erythrocyte sedimentation rate, elevated blood urea nitrogen and creatinine, hypoalbuminemia, and an M-component in the serum or urine. Immunoelectrophoresis will sometimes detect this monoclonal component only in the serum and not in the urine. Not infrequently symptoms have existed one to three years before the correct diagnosis has been made. A biopsy of an involved organ is necessary to confirm the diagnosis.

Secondary amyloidosis. The frequency of amyloidosis in the general population and its prevalence in a high risk population, such as patients with rheumatoid arthritis, are not precisely known. Postmortem studies are unreliable as they are performed on a selected group of patients and special stains for amyloidosis are not done on a routine basis. Consequently, such studies tend to give a falsely low indication of disease prevalence. Patients with leprosy or tuberculosis have been shown to have a prevalence of up to 50 per cent.[1] Amyloidosis associated with Familial Mediterranean Fever was reported to occur in 40 per cent of 400 patients with this condition.[10]

Amyloidosis may complicate many chronic inflammatory and infectious diseases, including tuberculosis, leprosy, bronchiectasis, osteomyelitis, rheumatoid arthritis, paraplegia, and carcinoma. With the advent of potent antimicrobial therapy secondary amyloidosis is now less frequently encountered in patients with chronic infection. Some of the other conditions described in association with amyloidosis include: rheumatoid variants, i.e. Reiters disease, ankylosing spondylitis, psoriatic arthritis, and juvenile rheumatoid arthritis; malignant neoplasms, for example, multiple myeloma and Hodgkin's disease; inflammatory bowel disease; connective tissue disorders, including, rarely, systemic lupus erythematosus, Sjogren's syndrome, and dermatomyositis; and miscellaneous diseases, i.e. Whipple's Disease and Behcet's disease. Although any organ may be involved in secondary amyloidosis, deposition is usually most prominent in the liver, spleen, kidney, and adrenals.

Local amyloidosis. In addition to systemic deposition, amyloid may be present in small foci, sometimes in a tumor-like form, in virtually any area of the body. The more common locations are the lung, skin, larynx, eye, and bladder. The usually small amount of amyloid in these deposits has precluded the isolation and characterization of the amyloid fibrils from these tumors, though the

immunoglobulin origin of the amyloid from a localized pulmonary nodule has been reported.[11] Blood vessel involvement is common in primary and secondary amyloidosis and should be carefully looked for in the local forms. If blood vessel involvement is present, one should look carefully for more widespread amyloidosis.

Heredofamilial amyloidosis. Hereditary amyloid syndromes have been described in a number of geographic locations; each family and type described is associated with certain organ involvement and clinical manifestations.[12] Generally, the mode of transmission is an autosomal dominant with the exception of Familial Mediterranean Fever, where autosomal recessive transmission has been described. Multiple kinships in individuals of various ethnic backgrounds have been described in the United States (such as German, Swiss, English-Irish-Scottish, and Armenian).

Amyloid associated with aging. Amyloid deposition appears to increase with aging.[13] Although clinically inapparent, small deposits can often be found in the heart, brain, pancreas, and spleen of elderly patients. The association of amyloid with aging has been demonstrated in experimental animals, and in one human series virtually all consecutive autopsies in individuals over 65 years of age demonstrated small deposits of amyloid.[14]

HISTOPATHOLOGY AND ULTRASTRUCTURE

Staining reactions and pathology. Amyloid was always thought to represent the accumulation of a variety of substances and is an amorphous, insoluble, eosinophilic, hyaline, extracellular substance that is ubiquitous in its distribution. Organs containing small amounts of amyloid show no demonstrable gross abnormalities while larger amounts create rubbery firm consistency and a pink or gray appearance of the tissue. Excessively large deposits may cause organ enlargement, i.e. liver, spleen, kidney, and heart. Physiological impairment is thus related to specific organ replacement by amyloid.

Amyloid has a characteristic affinity for a variety of histochemical reagents. Amyloid stains pink with hemotoxylyn and eosin and metachromatic (violet to pink) with crystal or methyl violet. The Van Gieson and periodic acid-Schiff stains are of no practical value.[15]

A number of fluorochromes, producing secondary fluorescence in ultraviolet light have been used to stain amyloid. Thioflavin T & S react strongly with amyloid but are not specific. Amyloid has a notable affinity for Congo red dye and it can be detected under ordinary light as a pink or red color. The Congo red uptake of amyloid is very sensitive and produces an apple green birefringence when observed by polarizing microscopy. This apple green birefringence is virtually specific for amyloid deposition.

Amyloid can also be identified by a characteristic electron microscopic (EM) appearance. As first described by Cohen and Calkins,[16] the EM structure is identical in all types of amyloidosis and consists of fine rigid non-branching fibrils of indeterminant length. They have been observed in high concentrations where they appear, singly or in bundles of varying number interlocking to form a meshwork. Their appearance is distinct from that of collagen, reticulum, or elastin or any other known fibrous structure. These fibrils are approximately 75 to 100 Å in cross sectional diameter with beading being described at intervals. Isolation of fibrils from amyloid laden tissues demonstrated by positive staining that the material would aggregate laterally. There is still controversy concerning the number and size of the subunits or filaments. Some observers believe the fibril to be made of two longitudinal subunits of 40 to 60 Å while others have been able to identify further subdivision under very carefully controlled conditions.[17, 4] While it has been shown by various techniques that structural variations exist and some heterogeneity occurs, no unique structure patterns have been identified that would differentiate the primary, secondary, and myeloma associated amyloid forms from one another.[18]

CHEMISTRY OF AMYLOID

Following the isolation of a highly purified amyloid fibril protein more precise identification of the chemical and physical structure has been possible. When solubility was studied at varying pHs, a point of maximum solubility at pH 4.5 was defined. The mucopolysaccaride and total carbohydrate content

(Continued on next page)

are 0.4 per cent and 5 per cent respectively.[19] Amino acid analyses indicate the presence of all amino acids with the exception of hydroxyproline and hydroxylysine (found in collagen) and desmosine and isodesmosine (found in elastin). Aspartic and glutamic acid constitute 20 per cent of the total amino acid content.

In addition to the characteristic fibrils described above, a minor second component, the P-component, has been noted in most amyloid deposits.[20, 21] P-component has been recognized by electron microscopy as a pentagonal-shaped structured unit measuring about 90 Å on outside diameter and 40 Å inside diameter. They appear to consist of five globular subunits of 25 to 30 Å which may aggregate laterally to form short rods. The purified protein has a molecular weight to 180,000, 95 per cent of which is protein and 5 per cent carbohydrate.[22] On immunoelectrophoresis it migrates as an alpha globulin, and it possesses antigenic identity with a constituent of normal human plasma. The amino acid sequence has been described and is distinct from that of the amyloid fibrils. The N-terminal amino acid is histidine and contains large amounts of aspartic acid, glutamic acid, glycine, and leucine. Sequence to 23 residues has found the protein to be unique as compared to all known sequences.[23]

Purified amyloid is primarily a protein, with a characteristic amino acid analysis and heterogeneity in composition and with aspartic and glutamic acid and unreactive amino acids in various primary and secondary preparations. Portions of the immunoglobulin light chain have been shown by Glenner[24, 25] at the National Institutes of Health to be a major component of amyloid associated with the primary and multiple myeloma associated types. The molecular weights of the amyloid fibril proteins vary from 5,000 to 18,300 daltons, i.e. generally lower than the 22,500 daltons of the intact light chain. The variable region accounting for 50 per cent of the total light chain has a molecular weight of 11,000 indicating that in some cases the light chain component is a fragment. It is clear that many amyloid fibril preparations have molecular weights greater than 11,000 and therefore conceivably contain a portion of the constant region, and the data suggest a cleavage or partial breakdown of the molecule during its formation. These biochemical data are supported by ultrastructural enzyme data suggesting a lysosomal relation in amyloid fibrillogenesis.[26]

Amino acid sequence analysis indicates that most primary amyloid proteins contain the N-terminal amino acid residue identical to the variable regions of the light chain (ASP-ILE-GLN-MET-THR-GLN-SER - PRO-SER-SER-LEU- . . .). Fibrils isolated from a patient with a plasma cell dyscrasia and amyloidosis have been sequenced to 27 residues and found to be identical to the amino terminus of an entire serum light chain, K type II from the same patient. The homogeneous characteristic of the amino acid sequence in each amyloid protein suggests that most probably a single clone of synthesizing cells is responsible for their formation.

It has been shown that antisera to the various amyloid subunits react with both kappa and lambda chains, and a high degree of cross-reactivity has been found irrespective of amyloid types.[27] Amyloid fibrils with an unreactive N-terminal amino acid have been observed in preparations from patients with primary amyloid. It has been postulated that this fibril is possibly of immunoglobulin lambda chain origin. Skinner and coworkers[28] recently reported such an amino acid sequence of a major component of a primary amyloid fibril i.e. one homologous with the variable portions of lambda immunoglobulin light chain). These studies certainly confirm that immunoglobulin is a major constituent of the amyloid in these types. What remains to be defined is whether these fragments are synthesized **de novo** or **in vivo** degradation of the whole light chain occurs.

Another protein that is unrelated to any known immunoglobulin has been described in the secondary amyloid deposits by Benditt[29], by Levin[30], by Ein[31], by Husby[32], by Benson[33], and their colleagues. Amyloid fibrils containing this AA (amyloid A protein) can be isolated from patients with secondary amyloidosis, the amyloidosis associated with Familial Mediterranean Fever, and also the amyloid isolated from experimental animals following casein injections. It is a unique protein with the molecular weight of about 8,500 daltons made up of

76 amino acid residues arranged in a single chain, the amino acid sequence beginning ARG-SER-PHE. Heterogeneity among the different species has been described, showing that several additional residues may precede the first residue suggesting that this may represent the result of proteolysis of a larger precursor.

Antisera to AA protein have demonstrated a cross-reacting component in the serum of patients with amyloidosis. This serum component known as SAA (serum A related protein) when purified may be important in the genesis of the amyloid fibrils. Using antisera, Benson tested for this substance in the serum of 70 patients with amyloidosis, 120 normal adults, 20 normal persons over the age of 70 years, and 97 patients with chronic diseases[33]. One hundred per cent of secondary amyloid sera had amounts of SAA detectable by double diffusion in agar compared to 19 per cent of primary amyloid sera. This latter finding was important, since primary amyloid is made up essentially of immunoglobulin components. Only 3 per cent of normal donors had detectable amounts in their circulation. Rosenthal and Franklin[34] have shown that SAA is present in normal human sera in a very low concentration. This level remains fairly constant during early life but increases significantly in older age groups. It appears that SAA is nonspecific and can be detected in patients with a variety of acute and chronic disorders. Patients with amyloidosis may have the highest concentrations, but its nonspecificity makes it an unreliable diagnostic test for amyloidosis. In acute infections it behaves like an acute phase reactant that returns to its former level with control of the disease process.

AA protein was isolated by affinity chromatography partial characterization and shown to be an alpha globulin with a molecular weight of 100,000 to 120,000. It is not related antigenically to immunoglobulin or amyloid P-component. It contains all of the antigenetic determinants of tissue A protein to which antibodies are produced by immunization of rabbits with A protein. While this suggests that the 76 amino acid moiety may reside intact in the molecule, the amino acid composition of SAA appears to differ remarkably from the tissue substance.

Benson, testing antisera against amyloid fibril preparations of primary, secondary, and myeloma types, found that one antiserum to a secondary amyloid fibril detected A protein.[27] Further, this antiserum detected A protein in several of the secondary amyloid and two primary amyloid fibril preparations, indicating similarities in composition of amyloid fibrils of various origins. One may conclude that, while the classification of amyloid on the basis of its biochemical structure may be feasible, all amyloid fibrils seem to have common factors involved in their amyloidogenesis.

The pathogenesis of amyloidosis is unknown. Complex mechanisms are most likely involved in the etiology and pathogenesis of this condition, and the advances regarding characterization of the chemical structure of amyloid may provide insight into these mechanisms. Ultrastructural studies of amyloid laden tissues in the animal model have revealed important clues.[35] The concept that cytoplasmic invaginations, containing tufts of amyloid fibers cell-amyloid interface, were the sites of amyloid formation has gained substantial support. Electron microscopic autoradiographic studies have revealed high concentrations of fibrils adjacent to reticuloendothelial cells, suggesting that they may synthesize as well as degrade the fibrils. Recently, Shirahama and Cohen[26] reported unusual inclusions with the reticuloendothelial cells intimately associated with fresh amyloid deposits. These inclusions were located in the areas rich in the primary lysosome type of dense bodies, and the cytoplasmic invaginations contained well oriented fibrils. They concluded that these inclusions were transitional forms from the usual dense bodies and thus constituted direct evidence for the involvement of lysosomes in amyloid fibril formation.

Excess antigenic stimulus has been shown to induce amyloid in animals. However, the basic conditions for experimental inductions have not been clearly defined. Marked depression of T cells with maintenance of normal B cell function has been described by Cathcart and Scheinberg.[36] In addition, the same authors have shown that administration of bovine thymus (thymosin) may suppress

(Continued on page 462)

CHAPIN ORATION:

Detection And Prevention Of Thromboembolic Disease

Better Evaluation Of Risk Factors And Improved Diagnosis, Prophylaxis, And Treatment With Fewer Side Effects Are Needed

By William H. Harris, M.D.

Seventeen years ago, when I was Chief Resident at the Massachusetts General Hospital, I was operating on the second hip of a patient who required bilateral cup arthroplasties. In the midst of that case he went into cardiovascular collapse. We were able to get him off the table, but he died eight hours later despite massive efforts to support him. He died of a pulmonary embolus.

If you analyze the understanding of postoperative thromboembolic disease (TED), as it existed a scant 17 years ago, the situation at that time can be characterized by the following statements:

1. Acceptance by the orthopaedic community of the idea that postoperative thromboembolic disease constituted a problem of major significance was limited to very few surgeons,
2. Episodes of postoperative thromboembolic disease were "rare, sporadic, and unpredictable,"
3. Postoperative fatal pulmonary emboli were "uncommon, defied logic, and were beyond rational approach,"
4. No substantive **in vivo** data existed on the prevalence of postoperative thrombophlebitis or pulmonary emboli,
5. No satisfactory method existed for the objective diagnosis of thrombophlebitis,
6. Or of postoperative pulmonary emboli,
7. No safe and effective method of prophylaxis existed,
8. Treatment of postoperative thromboembolic disease was only partially effective and carried with it serious hazards.

Substantial progress has been made in every category. I would like to review this progress with you and highlight the current state of the art.

PREVALENCE

Data from **objective** determinations have established without any reasonable doubt that in unprotected patients thrombi developed in at least 50 per cent of patients over 40 following hip or knee surgery. These figures have been generated from venographic or radioactive fibrinogen studies of intertrochanteric fractures, femoral neck fractures, total hip replacement, knee surgery, and tibial fractures.

More important are the data on pulmonary embolism. Extensive studies have shown that approximately 10 per cent of all patients over 40 following hip surgery and not receiving prophylaxis will have an embolus.

WILLIAM H. HARRIS, M.D., *Chief, Hip and Implant Surgery Unit, Department of Orthopaedic Surgery, Massachusetts General Hospital.*

Presented at the 165th Annual Scientific Assembly of the Rhode Island Medical Society, May 5, 1976.

Fatal pulmonary emboli following hip surgery are neither rare nor sporadic in patients denied prophylaxis. Following elective hip surgery roughly 2 per cent of unprotected patients over 40 will die of fatal embolus, and following hip nailing the figures are higher.

In short, the prevalence of fresh thrombophlebitis following hip surgery in the adult over the age of 40 is at least 50 per cent. Pulmonary emboli average about 10 per cent, and one patient in 50, or 2 per cent, of otherwise healthy patients will die of a fatal pulmonary embolus after elective hip surgery unless provided with some form of prophylaxis.

Some progress has been made in physician acceptance of this problem. Fifty three per cent of the orthopaedic surgeons surveyed do use prophylaxis for hip surgery patients.

However, 47 per cent do not.

This means that there is continued unawareness of the problem, extensive dissatisfaction, or both, with existing methods of prophylaxis.

Let's look next at detection. Much progress has been made. It is abundantly clear that the clinical diagnosis of thrombophlebitis is woefully inadequate. Both false positives and false negatives exist.

The error in the clinical diagnosis varies between 40 and 90 per cent depending on the type of study.

Over half of all emboli occur prior to the clinical signs of thrombophlebitis. About half of the **fatal** pulmonary emboli also occur **prior** to any clinical signs or symptoms of thrombophlebitis. These facts emphasize how unwise it is to withhold measures to prevent thromboembolic disease until signs or symptoms appear clinically, a view which is still unfortunately held by many.

The first major improvement in the diagnosis of thrombophlebitis during this 17 year interval was the refinement of venography.

Radiographic phlebography is accurate and sensitive, and it is not obscured by the wound or by the knee effusions. It is valuable craniad to the inguinal ligament and is the standard against which all other diagnostic techniques must be compared.

However, venography also has the disadvantages listed. Radioactive fibrinogen scanning has substantially improved the **in vivo** diagnosis of thrombophlebitis. However, important to the orthopaedic surgeon is the fact that this technique is blind in the area of the wound.

Since the evidence is quite strong that the thigh thrombi are the major ones causing pulmonary emboli of cardiovascular significance, this deficit in radioactive fibrinogen is important.

The new technique of cuff impedance phlebography has provided an 80 per cent accuracy in a series of 78 patients in whom we compared cuff impedance phlebography with venography following hip surgery. Perhaps even more important than the overall 80 per cent accuracy of this relatively noninvasive test is the fact that 7 of 10 thigh thrombi were detected. Others have found even higher accuracy, up to 95 per cent detection of major thrombi with this method. Plethysmography is also useful. We feel that with the techniques available today, particularly venography and cuff impedance phlebography or plethysmography, **no** diagnosis of thrombophlebitis should be accepted without objective documentation.

Next consider advances in the detection of pulmonary emboli resulting from arterial blood gas values, perfusion pulmonary scan, ventilation pulmonary scan, and pulmonary angiography. This problem has markedly improved.

So too have substantial advances been made in the prophylaxis against this common complication. Major emphasis has been placed on warfarin, dextran, and aspirin. Over the past 13 years we have done over 3,000 elective hip operations in adults protected by warfarin prophylaxis without a single fatal pulmonary embolus. Dextran clearly is also an effective agent. Because of the complications of warfarin and dextran, however, the search continues for other forms of prophylaxis.

In a comparison of aspirin against warfarin, low-molecular weight dextran, and low dose heparin, we gave two aspirin tablets twice a day, starting preoperatively. There was no significant difference between aspirin, warfarin, or dextran in the number of pa-

(Continued on page 466)

The Search For The Omphalos

The Oracle May Be In Your Own Hospital If You Work Hard To Retain The Authority

By Donald S. Fredrickson, M.D.

Recently I have been reminded that the stability of all things is relative. In late April, at a meeting of the National Academy of Sciences, Frank Press gave an illuminating lecture on the stability of the earth and presented a simulation of time-lapse photography of the changes in the earth's surface in a review of the now well-accepted theory of plate tectonics. In the film 500 million years of continental restlessness were collapsed into a little over three minutes.

DRIFT OF CONTINENTS

At the start, Africa and South America, bound as tightly as Siamese twins, emerged on a northward trek from the southern polar mass. As they migrated together North America sailed upward to the left separated from Africa-South America by the proto-Atlantic Ocean. Then this body of water disappeared as the three continents met in a whopping collision which produced among other artifacts, like crumpled fenders, the Appalachian Mountains. A single continent was formed called Pangea. It endured for a time only to break apart about 140 million years ago. (This explains the T-shirts advertised in the Whole Earth Catalog emblazoned with the ambitious words "Reunite Pangea.")

The continental split formed the Atlantic Ocean. Africa drifted eastward pushing India into Asia to form the Himalayas; and Italy bumped into the underbelly of Europe with enough force to create the Alps.

The arrival of man, about a million years ago, was after most of the continental pushing and shoving had subsided. Each succeeding civilization found the earth relatively stable — immovable when compared with the day-to-day fickleness of the weather, the impulses of the gods, and the invasive tendencies of quarrelsome neighbors.

As Greece flowered in the sunny reaches of the Aegean, its gods with their characteristic hubris declared it to be the central zone of the earth. But where in Greece, the people asked, was the precise center? Zeus, perhaps because he had slept through geology lectures in the heavenly academy or perhaps because he was wise to the relative wink of time allotted mortals on the earth, agreed to fix the locus. He released two eagles, one from the east and one from the west, and caused them to fly toward each other. They met at Delphi. The place of their meeting was declared the center of the earth and marked by a stone in the temple known as the "Omphalos" (literally the navel).

DONALD S. FREDRICKSON, M.D., *Director of the National Institutes of Health, Bethesda, Maryland.*

Presented at the 50th Anniversary Meeting of The Miriam Hospital, May 3, 1976.

Not only was Delphi at the center of the Greek world, it was also the site of the Shrine of Apollo, where the gods could be called upon by mortals to solve their most perplexing problems. Thus Delphi became the source of the authoritative answer.

In the realms of science and medicine the center of the earth has shifted many times. As both professions have grown and civilizations have come and gone their centers of authority have subdivided and diffused.

Viewed historically the center of medicine has, down through time, wandered over the earth. Once it was considered to be located in the shade of a plane tree on the Island of Cos, where Hippocrates practiced.

Through the rise and fall of succeeding cultures it settled for a time in Renaissance Italy, then removed to the London of Sydenham, to the Leyden of Boerhaave, to the old Vienna School, to the Paris of Laennec, and back to the "new" Vienna school, whence the moderns in Germany and the United States drew their inspiration.

OMPHALOS IN COLORADO

When I was growing up the "Center of Medicine" took on a more specific if provincial meaning. I remember vaguely — and my mother has amply reinforced that recall — that when I was two or three years old our accessible center-of-the-medical-world was located in Pueblo, Colorado. Wasting away with a chronic sore throat, I was bundled up by my parents and hustled across the dusty plain in the old Chevrolet to the Pueblo Clinic where there was a bona fide pediatrician. He took one look at the bulging abscess beneath my tonsils. It was blue, for our well-meaning family doctor at home had liberally painted it with iodine. Hurriedly, he sent me on to the office of the clinic's nose and throat specialist. Why had Doctor Fritz Lassen wandered from Vienna to an ill-smelling western steel town, where his skillful lance was to be my deliverer from a premature death? I have often wondered as my debt to him annually compounds its interest.

Of course, our society has seen a vast improvement in the organization required for providing good, authoritative medical care since the twenties. One no longer feels impelled to go a thousand miles "to the Mayo's," the Delphic medical oracle of my childhood. Today, for you at home here, The Miriam Hospital and its partners in Providence will likely do as well as anywhere you could go.

Yet, with all the enormous advances in medicine as created by science, the search for the center of authority has not subsided. It has quickened in some quarters and has reached here and there a pitch of frantic urgency.

RISE OF NEW TECHNOLOGIES

The ability to intervene in man's endless struggle for adaptation and survival grows constantly. New technologies spring up everywhere from the rapidly spreading roots of knowledge. How they shall be used and whether they should or can be provided to all are questions which constantly create new problems. Whole continents of ethical, legal, and even economic concerns sometimes seem to loom on collision courses with medicine and science.

Ironically, though perhaps not surprisingly, some of our most difficult questions today result from the answers which have come from biomedical research in the years since The Miriam Hospital was opened 50 years ago.

Science has filled the doctor's bag and his anteroom with new tools to diagnose and treat, sometimes to cure, and best to prevent disease. These presents to society are sometimes wrapped in sticky problems and obligations.

QUESTIONS RAISED

The questions generated by the new medical technologies seem to be of three major kinds: 1) How far shall they be used to interfere with the traditional course of events? 2) How useful are they? 3) When they are useful, how do we see that all have equal access to them? (The authority that shall provide the answers to these three questions will not necessarily emerge from a single source.)

The first class of questions has become ever more urgent as we learn new means for drastic interference with natural processes, having the ability in some instances to stave off physical death for long periods of time but remaining unable to do more than just that.

(Continued on next page)

The clinician's age-old question — "Can we successfully grapple with death in heroic ways?" — has been known of late to change its verb to "may we do so?"

Our imperfect state of knowledge has led to a few situations in which a totally conscious patient has become the long-time captive of a device required to sustain his life. You doubtless have read of the boy who for the past four years has lived his life in a totally isolated cubicle at NIH barred from direct contact with the outside world because his body has no resistance to infection. On the one hand a triumph of research and engineering. On the other hand, a poignant reminder of our failure. Why have we not yet found the way to less drastic treatment or, better still, to prevent such uncompromising disease.

A more familiar dilemma occurs when our technical ability exceeds the limits of philosophical wisdom. Such sometimes results from the development of mechanical means to sustain bodily functions. They restore countless useful lives, yet sometimes such equipment merely prolongs life for protracted periods in the absence of brain function. Many physicians and many families have been tortured by the consequences of this partially successful interference with natural process. It has started searches for a new definition of death. Here the answer cannot come from the temple of science. Lacking an oracle, the clinician and family must find a broader consensus, as in the courts and legislative bodies, to help them distinguish life from death. A convenient, simple authority is not available. The whole of society must become its own authority on such things.

COST OF LIFE

Questions of the second kind about technology are usually less dramatic, but involve the welfare of far larger numbers of people. They are concerned with the issue of whether some test, drug, or other intervention is useful and safe.

(The same humanitarian and noble purpose that has prompted the development of highly successful means for prevention, cure, or treatment of disease can sometimes be responsible for introduction into widespread use of interventions which at first appear to be helpful, but later may be found to be of no help or even injurious.)

How many of you have read Michener's recent novel **Centennial**? Do you remember the tragic story of the farmers in northeastern Colorado? How they were persuaded that new methods of cultivation would produce large crops of wheat on the high plains drylands? Even though the rainfall was far below the amount generally considered to be necessary. The secret was to catch, store, and protect from evaporation whatever rain fell on the land. But this involved plowing deep furrows and discing and harrowing to make a smooth surface of finely divided topsoil. The idea was widely adopted and for 20 years was highly successful. The few naysayers were brushed aside with the crop reports which gave the lie to their doubts. Suddenly, in about 1920, the fatal flaw became apparent and came close to destroying a large portion of the west. For the pulverized soil on the vast denuded areas was easy prey to the dry winds which periodically swept down from the mountains. Because the weather and wind cycles are measured in tens of years, and the plains previously had been protected by the sod, the tremendous dust storms of the early thirties were unprecedented.

The nightmare situation which Michener described so eloquently was created by well-intentioned and apparently intelligent innovation. It is a chilling reminder to the researcher and the clinician that similar flaws may be hidden in new and promising means of therapy. The caution engendered by such considerations must be balanced against the understandable impatience of the public and its representatives who wish to see the "latest and best" employed against the enemies, disease and disability. One of the most necessary and most difficult phases of biomedical research involves the demonstration through the conduct of clinical trials that an intervention in man is safe, practical, and efficacious. Clinical investigation is tough.

It is also expensive.

CLINICAL TRIALS

The NIH is now conducting some 1,000 clinical trials and is investing more than 10 per cent of its research budget in this ac-

(Continued on page 470)

Value Of Enzyme Studies After Prostatic Surgery

Enzyme Studies After TUR, Except HBDH, Are Generally Unreliable For The Diagnosis Of Myocardial Infarction

By Daniel S. Liang, M.D.

Older patients on occasion develop chest pain after a routine transurethral resection of the prostate for benign prostatic hyperplasia. Such pain has occurred in one of our patients in whom the preoperative electrocardiogram (EKG) and enzymes were within normal limits. Because of another attack of chest pain after surgery, the enzyme determinations were repeated; elevations were found in creatine phosphokinase (CPK) and serum glutamate oxalacetic acid transaminase (SGOT). EKGs obtained on successive days were all found to be within normal limits. The patient's chest pain subsided without complications. This led us to study the enzyme changes and their reliability in postoperative patients, and also to determine which enzyme is most reliable for determining the cardiac status in postoperative cases.

METHOD

Forty consecutive cases of benign prostatic hyperplasia undergoing transurethral resection (TUR) were studied. The EKGs were all within normal limits. All had preoperative and postoperative SGOT, lactate dehydrogenase (LDH), CPK, and α-hydroxybutyrate dehydrogenase (HBDH) enzyme studies performed 24 hours after surgery. LDH, SGOT, and CPK were assayed in the Technicon® Auto-Analyzer SMA 12/60. LDH and SGOT were determined by the manufacturer's automated 340 nanometer (n m) method, the CPK by the manufacturer's automated diacetyl-orcinol method at 540 n m, and HBDH by a manual spectrophotometric method at 340 n m. All cases were given spinal anesthesia. Isotonic glycine solution was used as an irrigation solution during surgery, and normal saline solution for postoperative irrigation. Patients ranged in age from 51 to 89 years. The gland removed averaged 20 grams, with a range of 6 to 82 grams. Postoperatively there were no complications, no chest pain, and no excessive bleeding, and no blood transfusion was required in any case during or after surgery. Postoperative EKGs were performed in each case and all were normal.

DANIEL S. LIANG, M.D., *Urologist, Pawtucket, Rhode Island.*

RESULTS

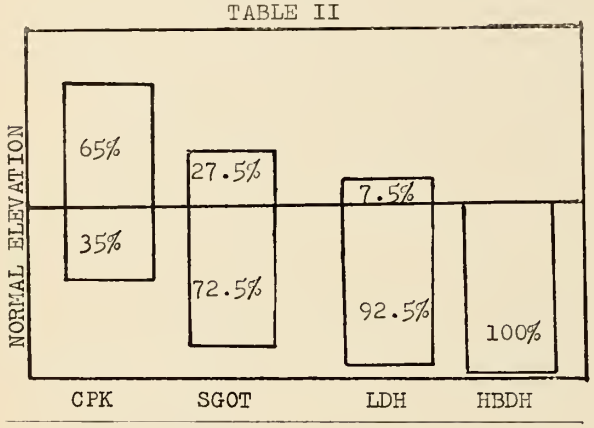
All of the patients preoperatively had normal enzyme studies. Postoperatively 26 of the 40 cases, or 65 per cent, had elevation of CPK with a range of values usually between 180-300 (normal 25-125). Elevation of SGOT with a range of 55-60 was found in 11 of 40 patients, of 27.5 per cent (normal 7-40). LDH elevation with a range of 220-340 was found in 3 of 40 patients, or 7.5 per cent (normal 100-125). There was no elevation of HBDH in the postoperative study, all cases being

(Continued on next page)

Table I

Tests	Normal	Elevation	%	Elevation Range
CPK	14	26	65	150-1500
SGOT	29	11	27.5	45- 170
LDH	37	3	7.5	220- 340
HBDH	40	....	0	

TABLE II



within the normal range of 0-140 (Tables I and II).

DISCUSSION

CPK is an enzyme which plays an important role in the energy storing mechanism of tissue,[1] with high concentration in such tissues as skeletal muscle, myocardium, and brain, whereas other organs contain little or none.[2] CPK determination has been used to detect acute myocardial infarctions. Its specificity is questioned since postoperative levels are found to be elevated in various types of surgery, as we have demonstrated in our cases in the 48 hour postoperative period. The increase of CPK after electrocautery in major surgery with mass muscle destruction was studied by Mostert,[3] who found that levels after the use of electrocautery were considerably increased over those in patients in whom the electrocautery was not used. In our studies in which electrocautery was used extensively in TUR surgery, 65 per cent of the cases manifested an increase in the CPK value. Most are in the 180-300 unit range, while in one case it was elevated to 1,500. Not all of our cases had elevated values, but it is sufficiently common to render the test of doubtful value for determining whether or not the patient does have myocardial infarction or other problems. It has been shown in our series that the surgery does not have to involve skeletal muscle destruction to produce elevated CPK.

SGOT is known to be elevated in myocardial infarction and also in abdominal surgical procedures. The single common factor leading to the high incidence of elevation appears to be hepatic exposure and retraction.[4] Skeletal muscle damage, such as in crushing injuries, will also cause a rise in SGOT. It has been demonstrated that after major surgery the diagnostic value of SGOT becomes uncertain. In our series of 40 cases 11 patients, or 27.5 per cent, showed an increase. Most showed only slight elevation, with the highest value being 170 units. Even without skeletal muscle destruction the test cannot be relied upon after TUR prostatic surgery.

LDH has an 80-100 per cent elevation in myocardial infarction. The enzyme is also known to increase with muscle injury and extensive surgical procedures.[4] In our series of 40 patients only three had some elevation, all in the low range, with the highest being 340. Therefore, marked elevation of LDH after TUR prostatic surgery could be significant.

HBDH is an LDH isoenzyme, which is elevated only in those cases in which LDH is elevated. The normal value is up to 140 international units. Following myocardial infarction serum HBDH activity is almost invariably increased. Elevation commences in 12 hours after infarction and reaches a peak after 48 hours. Levels are not increased with angina, coronary insufficiency, or pulmonary infarct. In our series of cases there were no elevations postoperatively. So it would appear that any elevation in HBDH after prostatic surgery is significant in diagnosing myocardial infarction.

CONCLUSION

Forty cases of routine transurethral resection of the prostate were studied for postoperative enzyme changes. It has been found that CPK has the highest and most frequent elevation, whereas there was no elevation of HBDH following surgery. Therefore, HBDH appears to be the most reliable enzyme for evaluating suspected myocardial infarct following TUR surgery.

(Continued on page 472)

Editorials

PRIMER: ADENYL CYCLASE AND CYCLIC AMP

In 1957 Earl W. Sutherland, Jr. and his co-workers discovered cyclic AMP and shortly thereafter adenyl cyclase. Sutherland, physician, physiologist, and biochemist, in 1971 won the Nobel Prize for medicine and physiology for his fundamental discoveries in this field. The authors proposed the concept of the **second messenger** to explain how hormones, binding to the external surface of the target cell plasma membrane (binding site), could effect a cellular response. The circulating hormone is termed the **first messenger.** When the first messenger (hormone) binds to its receptor in the cell membrane, the adenyl cyclase (enzyme) in the membrane is stimulated to convert ATP into cyclic AMP (see glossary).

The newly formed cAMP is then released from the internal surface of the cell membrane into the cytoplasm of the cell. The cAMP, the second messenger because it moves from the cell membrane into the cell, binds to certain proteins in the cell cytoplasm identified as protein kinases. The protein kinases are activated by union with the cAMP. The activated kinases in turn stimulate or inhibit various metabolic reactions. These reactions result in various cellular responses, which depend upon the cell specificity. Thus the reaction may result, depending upon the target cell, in enzyme secretion, ion transport, muscle contraction, hormone synthesis, or other cellular activity. Only those cells possessing the proper receptors are capable of binding a given circulating hormone. The more intimate chemical and structural nature of hormone receptors is unknown, but they are probably in whole or in part composed of proteins.

A number of common non-steroid hormones (glucagon, parathermone, triiodothyronine, secretin, ACTH, epinephrine, thyrocalcitonin, histamine, and others) stimulate adenyl cyclase in the cell membrane. All peptide or catecholamine hormones belong in this group. Steroid hormones(e.g. estrogens and androgens), however, appear to penetrate the target cells, bind directly to receptor proteins, and then alter target cell activity from within the cell. They are not thus involved in the adenylcylcase-cAMP mechanism.

Cyclic AMP has been shown to be an important regulator of cellular function in a wide variety of tissues in the human subject and many other animals.

The classical work of Sutherland and his group dealt with glycogen metabolism in liver and skeletal muscle. Cyclic AMP has a central role in the regulation of glycogen metabolism.

AMP dependent protein kinase is activated by cyclic AMP. The activated protein kinase produces phosphorylation of specific cellular proteins. In skeletal muscle and in liver this results in an increased rate of glycogen breakdown and a decreased rate of glycogen synthesis. The net result is increased availability of glucose. The detailed chemical steps by which this is accomplished are beyond the objectives of this primer.

The following is a somewhat over-simplified graphic representation of the chemical reactions involved:

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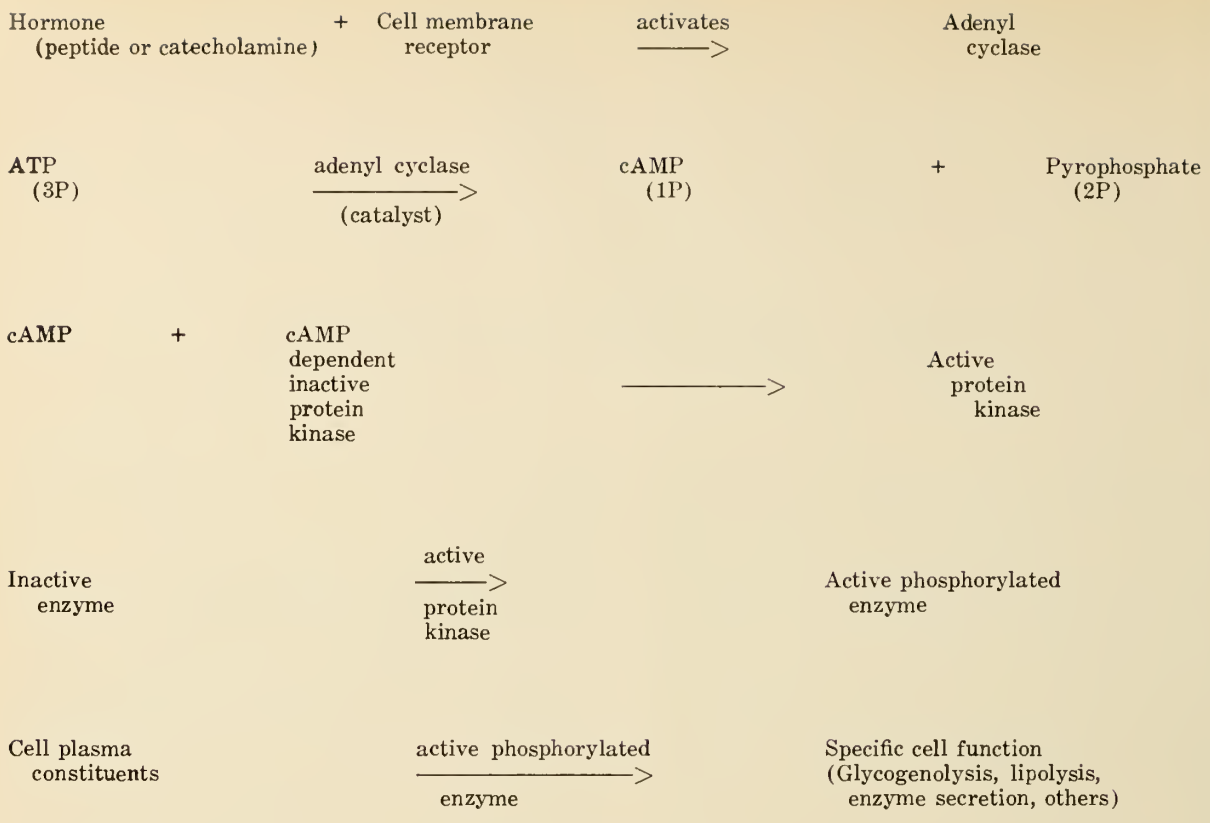

A number of regulatory mechanisms affect adenyl cyclase activity. For example, magnesium appears to be necessary for enzyme function, while ionized calcium appears to inhibit adenyl cyclase activity in many instances.

While the adenyl cyclase cAMP mechanism probably applies to other hormone activated mechanisms as well, the glycogen mechanism is the only one confirmed in man. Other processes in which this mechanism appears to operate are cardiac muscle contractility, smooth muscle relaxation, platelet aggregation, salivary gland amylase secretion, pancreatic exocrine secretion, and stomach acid secretion. Although much more investigation lies ahead, it is very likely on the basis of present evidence that many other hormone-stimulated cell processes will be shown to be dependent on mediation by cyclic AMP.

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GLOSSARY

Adenyl Cyclase — An enzyme found in the plasma (i.e. cell) membrane of a wide variety of cells which catalyzes the conversion of ATP to cyclic AMP and phosphate.

AMP)
Cyclic AMP Adenosine 3′5′ Cyclic Monophos-
cAMP) phate, a nucleotide.

ATP — Adenosine 5′ Triphosphate.

Nucleotide — Split product of nucleic acid consisting of a base (purine or pyrimidine), a sugar (ribose or deoxyribose), and a phosphate group.

Protein Kinase — An enzyme that catalyzes the transfer of a phosphate group from ATP to form a phosphoprotein.

AUTOTRANSPLANTATION IN PRIMARY PARATHYROID HYPERPLASIA

Parathyroid hyperplasia was recognized as early as 1933 by E. D. Churchill[1] of Boston. Hypertrophy of the water-clear cells and of the chief cells were described in 1951 and in 1958 respectively by Castleman and Cope[2] and by Cope et al.[3] The latter entity is now known to be by far the commoner variety.

State and Hill[4] have pointed out that in the past primary hyperparathyroidism was diagnosed only when overt clinical findings such as kidney and bone pathology directed attention to the disorder. Boonstra and Jackson[5] in 1965 described the detection of unsuspected hyperparathyroidism by routine serum calcium analysis. The advent of automated equipment for blood chemistry determinations has made possible not only much earlier detection in symptomatic patients, but also the discovery of asymptomatic patients. State has reported 136 patients who underwent surgery for hyperparathyroidism of whom 53 were asymptomatic. While he recommends that surgical exploration be considered an acceptable alternative to watchful waiting for patients with asymptomatic hyperparathyroidism, this concept is not uniformly accepted. Attention was drawn to the possibility of hyperparathyroidism by the presence of an elevated blood calcium level on a sequented multiple analyzer (SMA-12) print-out. A low serum phosphorus, a positive steroid suppression test, and more recently parathyroid hormone assays, first described in 1965,[7] are available as confirmatory evidence.

Patients with primary parathyroid hyperplasia present a therapeutic dilemma. It is imperative not only to identify all parathyroid glands but also to reduce the parathyroid mass so as to leave the patient in a normo calcemic state. This is usually attempted by removing 3½ glands, leaving a remnant to sustain the calcium level. If hypercalcemia ensues, reexploration of the neck is indicated. If, however, the result is permanent hypocalcemia, supplementation with vitamin D and calcium is resorted to.

A new approach to the problem has recently been described. Wells[8] has demonstrated the feasibility of removing all parathyroids from the neck and transplanting several small pieces from one or two of the glands in separate pockets of the forearm musculature. Viability of the grafts can be determined by sampling the venous blood draining from the graft site, as well as by systemic studies of the calcium metabolism. Parathyroid function returns in three to six weeks.

If hypercalcemia ensues after transplantation, a few pieces of the grafted gland can be removed from the forearm under local anaesthesia. Wells[9] in 1974 demonstrated that it was possible with cryopreservation (at -196°C) to maintain the viability of the parathyroid gland for up to 12 months and successfully to transplant the gland with restoration of parathyroid function in parathyroidectomized animals. To prevent permanent hypoparathyroidism in patients managed as above, but in whom the transplants failed or were insufficient, several small pieces should be frozen in liquid nitrogen in tissue culture in accordance with this technique and can later be transplanted into the forearm under local anaesthesia as the need arises.

With increasing detection of primary hyperparathyroidism and the growing incidence of secondary hyperparathyroidism associated with kidney failure and dialysis, these techniques should prove to be of considerable value.

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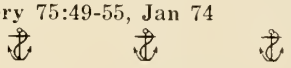

AMYLOIDOSIS

(Continued from page 451)

amyloid formation in mice. These findings suggest that disturbances in immunoregulatory mechanisms may be an important step in the pathogenesis of amyloid disease.

THERAPY OF AMYLOIDOSIS

There is no specific therapy for any variety of amyloidosis. Rational therapy should be directed at 1) decreasing chronic antigenic stimuli producing amyloid, (2) inhibition of the synthesis of amyloid fibril, (3) affecting its extracellular deposition, and (4) promoting lysis or mobilization of existing deposits.

In secondary amyloid, eradication of the predisposing disease apparently slows the progression of secondary amyloidosis. However, many such reports are not substantiated by biopsy proof of resorption. Conclusions have been drawn on clinical guidelines or on the basis of the Congo red test, although a few patients have showed biopsy proven improvement. Despite these occasional reports, amyloidosis is often a progressive disease; but, while the average survival in most large series is one to four years, we have followed a number of individuals with amyloid for five to ten years and more.

A variety of agents have been used to treat amyloidosis. Among the most prominent has been whole liver extract, which was not subjected to vigorous control. The clinical impression of those who have used it indicates that it has little effect on the course of the disease. Corticosteroids have been shown to have little effect on amyloidosis. Ascorbic acid in large doses has been used, but proof of its efficacy is not available. The finding that a portion of the immunoglobulin light chain is incorporated in the amyloid of patients with primary amyloidosis and its presumed synthesis from plasma cells have led to the use of alkylating agents. However, these agents cause bone marrow depression, and there are reports of acute leukemia developing in patients receiving melphalan. Moreover, there exists experimental evidence that immunosuppressive agents may enhance the deposition of amyloid. Hence, the conservative and supportive measures provide the mainstay of management of amyloidosis. Rigid adherence to supportive and symptomatic therapy with these patients has led to a more optimistic outlook regarding the quality of life attained.

Two patients with severe renal amyloidosis and azotemia were subjected to bilateral nephrectomy and renal transplantation, followed by immune therapy.[37] One patient died of infection five months after surgery. The donor kidney showed no evidence of amyloidosis. The second patient is in clinical remission 6½ years after receiving a transplanted kidney. Biopsies of her kidney after two and four years showed no amyloid. Notwithstanding the hazards of operating upon patients with systemic amyloidosis who may have cardiac involvement, a group of patients carefully selected potentially could benefit from transplantation surgery.

Colchicine has been shown to be effective in preventing acute attacks in patients with Familial Mediterranean Fever. Recently, two groups of investigators have independently reported the inhibition of amyloid deposition in the mouse model by colchicine.[38, 39] It is, therefore, conceivable that colchicine is effective in blocking amyloid deposition. However, the exact mechanism of its action is not known, and no controlled human clinical study has been performed.

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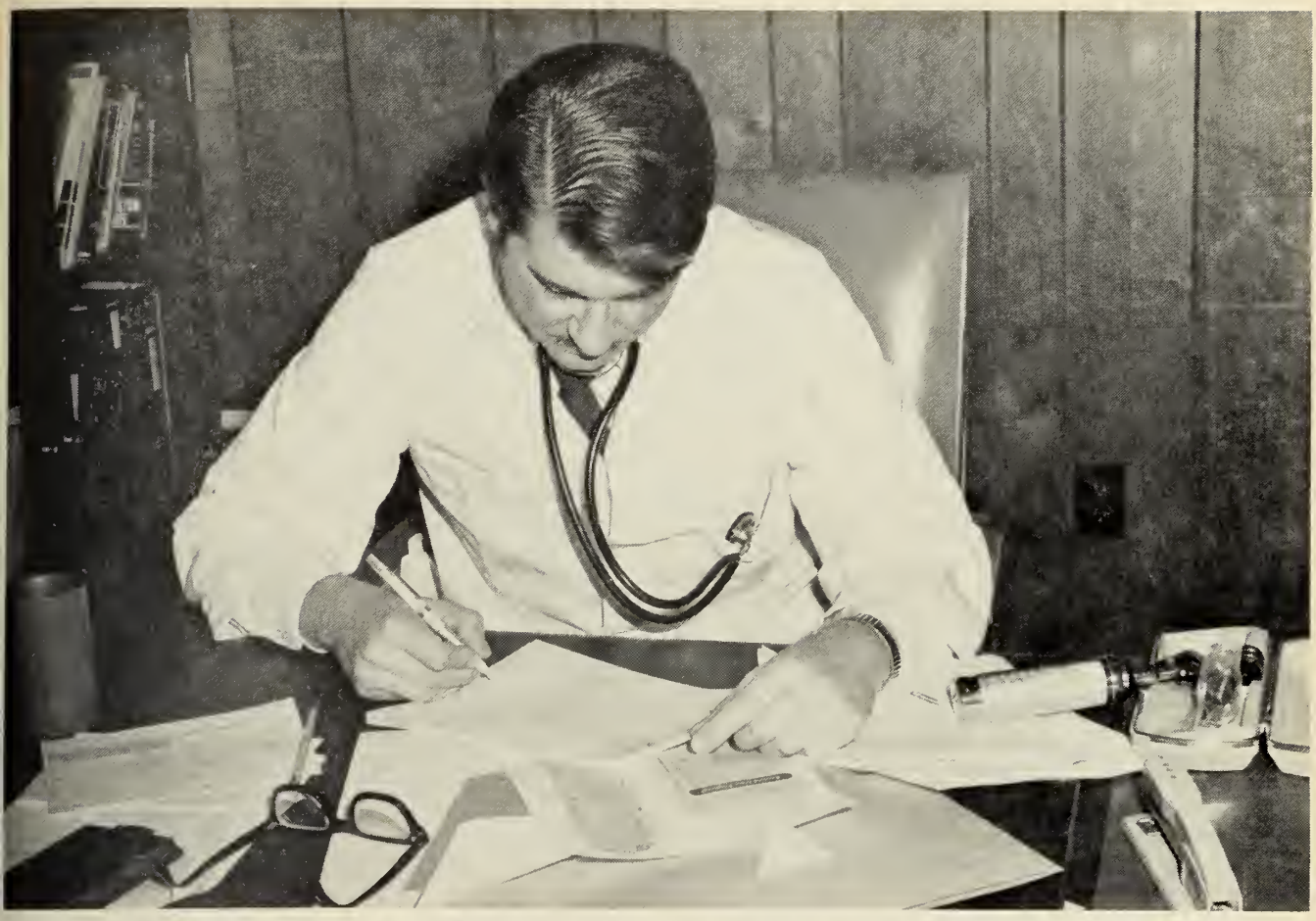

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(Continued on page 466)

The Thirteenth Annual

MAURICE N. KAY PEDIATRIC SYMPOSIUM*

"CURRENT ADVANCES IN PEDIATRIC DIAGNOSIS AND THERAPY"

WEDNESDAY, DECEMBER 1, 1976 — 9:00 A.M. to 5:00 P.M.

Dr. Leo Stern, Moderator

TOPICS AND SPEAKERS

"Treatment of the Newborn and Young Child: The Importance of Drug Dosage"
DR. ALLAN H. NEIMS, McGill University, Montreal, Quebec

"The Child with Stridor"
DR. JOHN S. DUNBAR, University of Cincinnati College of Medicine

"The Changing Face of Adolescence"
DR. LEON EISENBERG, Harvard Medical School

"Diagnosis and Therapy of Patients with Defects in the Inflammatory Response"
DR. PAUL G. QUIE, University of Minnesota

For further information, write Mary B. Arnold, M.D., Chairman, Department of Pediatrics, Roger Williams General Hospital, Providence, RI 02908.

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■ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

■ **Dosage for Vertigo*** —The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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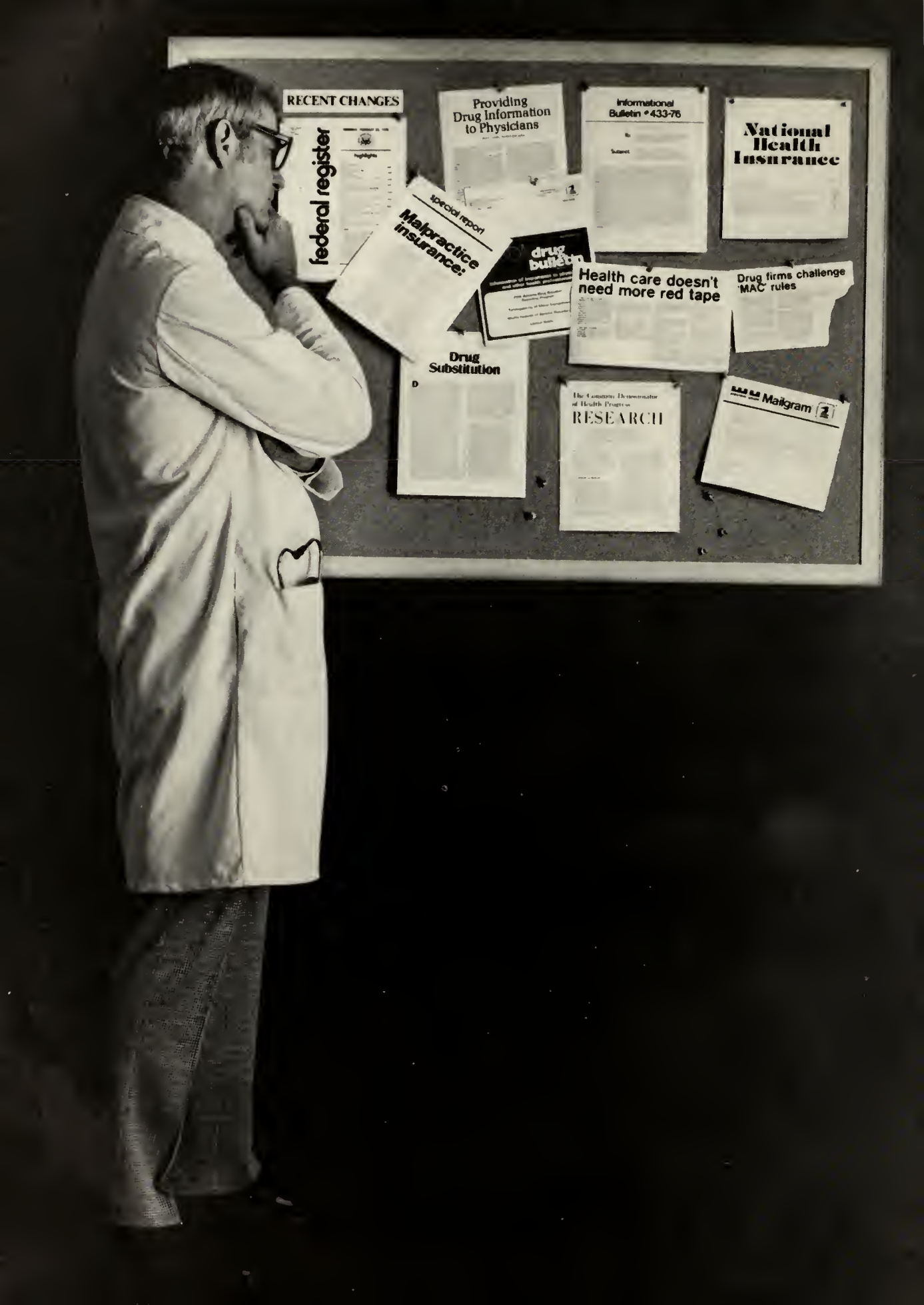
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.

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DETECTION AND PREVENTION OF THROMBOEMBOLIC DISEASE

(Continued from page 453)

tients developing thromboembolic disease. There was significantly less bleeding complications in the aspirin group compared to the warfarin group. And all three agents gave significant protection compared to low dose heparin. There were no fatal pulmonary emboli in the whole study, and no emboli fatal or nonfatal in the aspirin or warfarin groups.

However, there are three cautions that go with this use of aspirin. The first is that all patients with prior TED were excluded. Secondly, this study involved early surveillance so that we detected thrombophlebitis early in its course.

The third caution comes from the multicentered study of general surgical patients in Great Britian, which did not find a protective effect from aspirin. Despite the results of that study in general surgical patients, our experience continues to be quite favorable. In 528 patients given just aspirin prophylaxis, started preoperatively in patients without prior thromboembolic disease undergoing total hip replacement, there were only eight pulmonary emboli, and zero fatal pulmonary emboli.

(Continued on page 468)

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Zekert[1] has published a prospective blind study of 240 hip fracture patients in which eight autopsy proven fatal pulmonary emboli occurred in the control group and only one in the aspirin protected group. This is statistically significant protection against fatal pulmonary emboli.

In contrast with its clearly successful use in general surgical patients, low-dose heparin used to protect hip surgery patients has failed. In our experience with 20 patients so treated, 11 of the 15 who had venography had fresh thrombi. An additional patient suffered a pulmonary embolus. Four patients had wound bleeding, and one had an arterial embolus. This poor experience has been substantiated by the studies by Evarts and Alfidi, Gallus and Hirsh, and others[2] (cited by Harris, et al.).

An entirely different approach to the prophylaxis is the use of physical modalities. Stockings and elevation may provide some benefit, but are inadequate by themselves. Electrical stimulation is also effective, but is painful and can only be used under general anesthesia. External pneumatic compression has substantial support in general surgical and neurosurgical populations. However, in our study of hip replacement patients who are at an extremely high risk, namely, patients who have previously had thromboembolic disease with persistant abnormalities in the venous tree preoperatively, the protection provided thus far appears to be less effective than warfarin.

It is my belief that one of the major developments in the coming decade will be in the establishment of different levels of risk and therefore different levels of protection needed. We are all at ease with such risk factors as age, prior thromboembolic disease, lower extremity surgery versus upper extremity surgery, and the presence of malignant disease. Now, however, we have objective data that confirm that more femoral thrombi occur after hip surgery than after other types of surgery. Also, **isolated** femoral thrombi occur after hip surgery and do not occur following general surgery. Subcutaneous heparin, which is effective in general surgery, is not effective after hip surgery. External pneumatic compression, which is effective in general surgery in the presence of an abnormal venous tree from previous venous disease is not effective after hip surgery in similar circumstances.

Finally, let us turn briefly to the question of therapy. Major advances have been made here as well. Calf thrombi, if you have an objective technique to follow the growth of the thrombus, probably need no treatment. In the absence of I^{125} fibrinogen, or cuff impedance phlebography, or plethysmography they can be treated with warfarin without the use of heparin. Thigh thrombi and pulmonary emboli require heparin followed by coumadin. When heparin is to be given intravenously, it should be given continuously by an infusion pump. This reduces the bleeding complications by a factor of seven and maintains the same efficacy.

The role of surgery in the management of thrombophlebitis, in our view, has been completely eliminated, with the one exception of inferior vena cava ligation in the presence of repeated pulmonary emboli in a patient who has received therapeutic amounts of heparin or coumadin.

(Continued on page 470)

TWO SENTENCE ESSAY

A few hundred years ago, if you had daily talks with thhe Blessed Virgin you were St. Bernadette. If you do it today, you are put into an institution on a heavy diet of drugs.

. . . Ann Morissey, mental health advocate and independent candidate for Congress from Rhode Island.

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SUMMARY

Major advances have been made in physician acceptance, acknowledgement of the problem, and the objective ability to diagnose thrombophlebitis and pulmonary emboli, as well as in the prevention of thromboembolism and its treatment. The problem, however, is not completely eliminated. We still need better evaluation of risk factors, improved diagnostic methods, enhanced prophylaxis with fewer side effects, and more effective treatments with less risk.

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THE SEARCH FOR THE OMPHALOS

(Continued from page 456)

tivity. Some of these trials are large. Thirty-one involve more than a thousand subjects chosen on a randomized basis.

We believe that such studies are important. They often are the only means for testing and evaluating new hypotheses. They can prevent premature introduction of interventions into practice.

The outcome of clinical trials in the future will likely determine the patterns of practice, which will, in turn, set the terms of reimbursement and standards of quality care.

Long-standing and traditional modes of therapy are a particularly troublesome class of problems to put to clinical trial, and yet the answers from such trials may be equally as important as the results from trials of completely new technology. This week a Senate committee is holding hearings on why there are still such differences of opinion regarding the treatment of breast cancer, a difficult issue to settle in a hearing room, but it shows the width of the gap between public expectations and our power to resolve certain critical questions, or to explain to public satisfaction why the answer is so elusive.

There is a tendency in these times to conduct the search for the medical Omphalos in the neighborhood of Washington, D.C. A few would locate it in Bethesda, where the NIH has its campus and hospital. Others would cart it away to the mall, where it might be within walking distance of both Executive Offices and Capitol Hill. And within reach of on-line cables to the Government Printing Office, for a central authority in a land of 200 millions means much communications traffic between the concerned and the source of assurance.

Despite the continuing sounds of construction, it is not likely that a functional oracle will be added to the things to be visited in Washington when the blossoms are out in the nation's capital. The tradition of the land is pluralistic and resistant to excessive central control. There is a great dispersion of the search for knowledge and its practical application, and sources of authority are

nearly always in geographical proximity to all.

AUTHORITATIVE DIRECTIONS SOUGHT

But it will be foolish if we pay no attention to the principal urge for more authoritative directions in matters of health.

It is the cost of health care. In the United States in 1940 less than 5 per cent of the gross national product was spent for health. Now it is 8.5 per cent, and soon it will be 10. A figure of $118 billion is estimated for the present year, and the upward deflection of the curve is greater than the general inflation. For General Motors the medical package per worker is said now to be about $1,800 per year. The federal purse, which now buys more health care than any other, is suffering strain.

Because no one may argue with an equally pressing mandate to make the same standard of care available to all, this theme is added to a general one of cost containment. The solution we must seek is to make **equal access** available to what is **necessary** and **proved** to be effective with efficiency in delivery.

There **are** flaws in our current system. In deciding what innovations are effective enough to replace older modes the informal collegial ways of coming to decisions are not maximally workable for the times. The great network of academic medical centers and developers of technology have to find some ways to improve the process — to couple it with statistics and economics when possible, making evaluations called for by the times.

VOLUNTARY SYSTEM MUST RESPOND

The voluntary system, which has served the country well, must also respond to new and increasing demands. Where excellence is unevenly available, where costs are forced upward by hospital practices or a lack of community organization, collective authority has to be mobilized at local and regional levels. It must function well, or central authority will be created, like it or not.

At the center of the storm over the costs of health is a problem of particular interest to us all. It is the question of whether cost accounting must consider only populations, with the submergence of persons. The artificial kidney is a case in point. Some urge that we stop the development of new means to help a few at considerable cost to the many. If this is even possible, we shall have to find other authorities than physicians, patients, or politicians whose concern with single lives is too tight to allow them to be objective.

Who will be the oracle for these decisions? Where will be the Omphalos? For some things it will be in one place, for others it will be elsewhere. In some critical things that matter the most to you about your health, it will be up to you, your physicians, this hospital you have built, this community to work hard to retain this authority here.

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VALUE OF ENZYME STUDIES AFTER PROSTATIC SURGERY

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PERIPATETICS

(Continued from page 432)

PAUL CALABRESI, physician-in-chief at Roger Williams General Hospital and new member of the Editorial Board of the **Rhode Island Medical Journal,** has been named to the prestigious 27-member Board of Governors of the American Board of Internal Medicine for a three year term. Doctor Calabresi had formerly been an associate member of the ABIM and chairman of the Board's subspecialty committee on medical oncology, a group he helped establish.

* * *

Simon and Shuster has recently published a book titled **Sex Therapy at Home** by DAVID J. KASS of The Miriam Hospital staff.

* * *

The Miriam Hospital recently announced the appointment of SUMNER I. ZACKS as Pathologist-in-Chief and Director of Laboratory Medicine. Doctor Zacks held the position of associate pathologist and neuropathologist at Pennsylvania Hospital before coming to Rhode Island.

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TWO SENTENCE ESSAY

The cost of sloth, gluttony, alcohol overuse, reckless driving, sexual intemperance, and smoking is now a national, not an individual responsibility. These abusese are justified on the ground of individual freedom, but one man's freedom in health is another's shackles in taxes and insurance premiums.

. . . John H. Knowles, M.D.,
President of the Rockefeller Foundation

Rhode Island Medical Journal

November, 1976

Vol. 59, No. 11

MENTAL HEALTH

Both often

Predominant psychoneurotic anxiety

Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

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in psychoneurotic
anxiety states
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depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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NOVEMBER, 1976 VOLUME 59, No. 11

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DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES
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CONTINUING MEDICAL EDUCATION CALENDAR

DECEMBER

1 Basic Science Lecture Series, "Indications for the Use of Different Modalities in Physical Medicine," Henri L. Pache, M.D., Department of Rehabilitation, Rhode Island Hospital. 1:00 P.M., 7th Floor Conference Room, APC, Rhode Island Hospital.

1 Thirteenth Annual Maurice N. Kay Pediatric Symposium, "CURRENT ADVANCES IN PEDIATRIC DIAGNOSIS AND THERAPY," Kay Auditorium, Roger Williams General Hospital.

9:00 A.M. Registration and Coffee

10:00 "Treatment of the Newborn and Young Child: The Importance of Drug Dosage," Allan H. Neims, M.D., Ph.D., Director, Roche Developmental Pharmacology Unit; Associate Professor of Pharmacology and Pediatrics, McGill University.

11:30 "The Child with Stridor," John S. Dunbar, M.D., Professor of Radiology and Pediatrics, University of Cincinnati College of Medicine; Director, Division of Roentgenology, Children's Hospital Medical Center, Cincinnati.

1:00 P.M. Lunch

2:00 "The Changing Face of Adolescence," Leon Eisenberg, M.D., Maude and Lillian Presley Professor of Psychiatry, Harvard Medical School; Senior Associate in Psychiatry, Children's Hospital Medical Center, Boston.

3:30 "The Diagnosis and Therapy of Patients with Defects in the Inflammatory Response," Paul G. Quie, M.D., Professor of Pediatrics, American Legion Memorial Heart Research Professor, University of Minnesota.

2-3-4 Nineteenth Annual Meeting, Department of Orthopaedic Surgery and Fractures, Rhode Island Hospital

THURSDAY

8:30 A.M. Tour of Hospital Departments and Facilities

9:30 Presentation of Problem Cases, George Auditorium

2:00 P.M. Informal Ward Walk, Dr. Philip D. Wilson, Jr., M.D., Professor of Orthopaedic Surgery, Cornell University Medical College.

3:00 Informal Discussion, 7th Floor APC, Dr. Wilson

8:30 The Murray S. Danforth Oration, "TREATMENT OF HIP SEPSIS WITH ANTIBIOTICS COMBINED WITH TOTAL HIP RECONSTRUCTION," Dr. Wilson, George Auditorium

FRIDAY

9:00 A.M. Presentation of Problem Cases, Nursing Arts Building, Room 5

2:00 P.M. Informal Ward Walk — Pediatric Service, Dr. Wilson

3:00 Informal Discussion, 7th Floor APC, Dr. Wilson

SATURDAY — George Auditorium, Rhode Island Hospital

9:00 A.M. "Surgical Treatment of Chronic Ankle Sprain at Rhode Island Hospital," Ernest B. Lowe, Jr., Senior Resident, Department of Orthopaedic Surgery and Fractures, RIH.

9:30 "Prophylactic Use of Antibiotics in Orthopaedic Surgery," Dr. Wilson

10:30 "Congenital Dislocated Hip: The Value of Neonatal Screening," Thomas F. Bliss, M.D., Assistant Surgeon, Department of Orthopaedic Surgery and Fractures, RIH

11:00 "The Management of Osteochrondritis Dissecans," William N. Jones, M.D.

8 Basic Science Lecture Series, "Cardiac Arrest," Augustin McNamee, M.D., Department of Anesthesia, Rhode Island Hospital, For time and place, see December 1 listing.

9 "Thyroid Function and Mental Illness," Milton W. Hamolsky, M.D., Professor of Medical Science, Brown University, and Chief of Medicine, Rhode Island Hospital. 8:00 P.M., Ruggles Room, Butler Hospital.

9 "Lacrimal Surgery," Charles K. Beyer, M.D., Director, Ophthalmic Plastic Surgery Division, Massachusetts Eye and Ear Infirmary. 7:00 P.M.-8:00 P.M., 7th Floor Conference Room, APC, Rhode Island Hospital.

15 Basic Science Lecture Series, "Radiologic Aspects of Metabolic Disease," Thomas Forsythe, M.D., Radiologist, Rhode Island Hospital. For time and place, see December 1.

JANUARY

4 BOARD REVIEW COURSE IN INTERNAL MEDICINE. Weekly lectures Tuesday evenings through June 7, 1977. Topics will include: gastroenterology, liver disease, immunology, renal, endocrine, cardiology, oncology, pulmonary diseases, infectious diseases, neurology, diabetes, office gynecology, rheumatology, hematology, dermatology. Tuesdays, 7:00 P.M.-9:00 P.M. George Auditorium, Rhode Island Hospital. Registration required. For information, contact the Office of Continuing Medical Education, Brown University, Box G, Providence, RI 02912, or 863-3337.

5 Basic Science Lecture Series, "Fat Embolism," Karl E. Karlson, M.D., Surgeon-in-Charge, Division of Cardio-Thoracic Surgery, Rhode Island Hospital. 1:00 P.M., 7th Floor Conference Room, APC, Rhode Island Hospital.

12 Basic Science Lecture Series, "Orthopaedic Neurology," Michael Faella, M.D., Department of Neurology, Kent County Hospital. For place, see January 5.

14 "Diagnosis of a Child with Abdominal Pain," M. Judah Folkman, M.D., Surgeon-in-Chief, Children's Hospital Medical Center, and Julia Dyckman Andrus Professor of Pediatric Surgery, Harvard Medical School. 10:30 A.M.-12:00 Noon, Kay Auditorium, Roger Williams General Hospital.

19 Basic Science Lecture Series, "Management of Chronic Arthropathies," Joseph P. Lombardozzi, Jr., M.D., Medical Staff, Rhode Island Hospital. See January 5 listing for time and place.

26 Basic Science Lecture Series, "Vascular Problems of the Lower Extremities," Warren Francis, M.D., Surgical Staff, Rhode Island Hospital. For time and place, see January 5 listing.

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THE INDEBTEDNESS OF STUDENTS CURRENTLY ATTENDING MEDICAL SCHOOL

It is doubtful whether any generation of American physicians upon graduation has been substantially free of financial obligations. The incidence and magnitude of indebtedness amongst recent medical graduates, however, is clearly greater than in the past and it emerges as the basis of community concern for two reasons: First, that the soaring costs of medical education may soon modify the characteristics of medical school applicants and, by a self-selection process, diminish within the applicant pool the representation of rural, low income, and minority populations. Second, that the presures of indebtedness, rather than competency of natural affinity, may become the major force in determining career directions of the graduate. Both nationally-based and local studies on this subject have recently been completed; these surveys may provide us with some clues regarding the distribution of indebtedness and the career aspirations of those in debt.

The Association of American Medical Colleges asked medical students of each of the U.S. medical schools to provide information on their individual backgrounds, means by which their studies were financed, and their career goals. The following observations were made:

1. About 35 per cent of all medical students are in debt before entering medical school, the amount of indebtedness averaging $2,923.

2. About 67 per cent of all current medical students owe an average of $11,573 upon graduation from medical school. (About 30 per cent of all students graduate with debts of $15,000 or more; 15 per cent of medical graduates have debts of $20,000 or more and 3.4 per cent of graduates are burdened by debts of $30,000 or more.)

3. Women students, minority group members, married students with children and students from small towns or rural regions tended to incur larger debts during their matriculation at medical school. The only group of medical students substantially without debt at the time of graduation are those from families with earnings in excess of $50,000 per year.

4. The national study sought to find some relationship between the existence and extent of indebtedness and subsequent career choices (with particular emphasis upon those selecting primary care medicine). The study noted "that there appeared to be little relationship between indebtedness and career plans," and the AAMC investigators concluded: "It appears that career choice is probably more closely related to a student's general background than to the degree of indebtedness he or she anticipates at the time of graduation from medical school."

The financial situation with our Brown medical students is essentially the same as that described above. During the academic year which ended in June 1976, about 60 per cent of our 247 medical students received some sort of assistance through the University. (These figures, of course, do not include those instances where students have borrowed through private extracollegiate channels or from relatives). Scholarships in the amount of $247,000 were distributed to the Brown medical students during this twelve month interval; guaranteed loans (from various Federal, University, private and American Medical Association sources) in the amount of $348,500 were also disbursed.

An additional factor must be weighed in attempting to assess the relevance of indebtedness. Twenty-eight Brown medical students (about 12 per cent of the medical student

(Continued on next page)

body) are now enrolled in Armed Forces or Public Health scholarship programs. Such contractual agreements provide them with funds for tuition and educational cost as well as a monthly stipend for living costs. In return, the obliged student will serve in the Armed Forces or the Public Health Service for a period of time equivalent to the period of collegiate assistance, or two years, whichever is greater. Thus, if a typical medical student receives three years of Armed Forces health professions scholarship assistance, he or she is then required to invest at least three years in the armed services, practicing a specialty chosen essentially by the concerned federal agency in keeping with its professional needs.

For the forthcoming year the financial aid office of the Brown medical school projects an anticipated total need (scholarship and loans from all sources) of about $800,000 for approximately 130 of our students. At this moment the maximum funds that appear to be available for next year from conventional sources amounts to $698,000. The recently enacted Health Professions Assistance Act of 1976 (P.L. 94-484) established new programs of federally assured loans for medical students, effective October 1, 1977. Also the National Health Service Corps under this legislation is extended and a new scholarship program is created. In return for financial assistance the scholarship recipients will be required to serve in "health manpower shortage areas."

The ability to pay tuition has never been a factor in determining the admissibility of a candidate to the Brown Medical school. Indeed, the Admissions Committee is not provided with any information regarding the financial resources of the candidate or his family, and thus far no Brown medical student has had to interrupt his or her education because of financial needs.

Our past successes in supporting our medical students is by no means assured for the future, and it is likely that increasing numbers of our students will look to some form of federal service, such as the National Health Service Corps as a means of underwriting their undergraduate medical education. It is through this mechanism that the factor of financial indebtedness may well dictate future career choices of many of our current medical students.

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Wednesday, December 15, 1976-8:15 p.m.

TOPIC: Cost Containment and Quality of Care

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James P. Cooney, Jr., Ph.D., Director of SEARCH

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President's Page

CONTINUING MEDICAL EDUCATION REQUIREMENTS FOR TRIENNIAL RELICENSURE IN RHODE ISLAND

By Herbert F. Hager, M.D.

Effective September 1, 1976 Section 2, Chapter 37 of Title 5 of the General Laws of Rhode Island as amended, entitled "Physicians and Surgeons" was amended to read as follows:

> Every physician licensed to practice medicine or surgery within this State shall, on or before the first day of January of every third year after the 1977 registration, apply to the Rhode Island board of examiners in medicine for a certification of triennial registration with the board. The applicant shall include satisfactory evidence to the board of examiners that in the preceding three years the practitioner has completed a prescribed course of continuing medical education established by the appropriate medical society and approved by rule or regulation by the board of examiners in medicine. No recertification to practice medicine or surgery in this state shall be refused, nor shall any certificate be suspended or revoked except as: (a) provided for in section 5-37.1-3 of the general laws, and, (b) failure to provide satisfactory evidence of continuing medical education as provided for in this section.

The Rhode Island Medical Society, in compliance with this law, has determined that for the present the "prescribed course of continuing medical education established by the Rhode Island Medical Society" shall be a minimum of sixty (60) documentable "credits" over a three year period. A credit is defined as a "documented unit of participation in a learning experience approved by the Rhode Island Medical Society."

It is emphasized that that number of credits would constitute the minimum requirements for relicensure and that all physicians are encouraged to pursue further educational activities and academic recognition.

With full appreciation of the diversification of interests, specialization, and sub-specialization of physicians, the society wishes the program to be as broad as possible with a multiplistic approach as to types of learning experiences and of their geographic location. Logistics alone preclude any one organization from individually approving, session by session, the opportunities for learning that exist. It is planned so that no one will be denied the opportunity to obtain the required credits because of location or because of excessive expense. Nor is it prohibitive for an individual to seek his learning experiences anywhere in the world at whatever expense he chooses, provided that he receives documented evidence of participation from an approved sponsoring organization.

As a guide to what organizations are accredited for sponsorship, the Rhode Island Medical Society accepts but does not limit itself to the credits of all organizations acceptable to the AMA for its Physician's Recognition Award. These are in general the institutions and organizations which have been

(Continued on next page)

accredited by state medical associations, whose continuing medical education accreditation programs have been approved by the AMA Council on Medical Education. This includes state medical associations, medical schools, specialty societies, voluntary health associations, hospitals, and others. Also accepted for sponsorship would be state and federal health departments, and conditionally approved, licensed hospitals in Rhode Island that have been approved by the Joint Commission for the Accreditation of Hospitals, or equivalent institutions and groups in other states.

Credits would also be accepted for documented participation in other categories of continuing medical education such as those accepted for the AMA Physician's Recognition Award.

The Rhode Island Medical Society Committee on Standards and Credentials will, on request, rule on any problems of individual accreditation. The Rhode Island Medical Society Committee on Continuing Medical Education has surveyed, and will continue to survey on request any hospital or organization within the state which wishes to be accredited as having a program of CME meeting the standards of the AMA Council on Medical Education and thus while so accredited be eligible to issue credits for the AMA Physician's Recognition Award.

It is the sole responsibility of the individual physician to obtain documentation from the approved sponsoring or co-sponsoring organization that he has participated in a learning experience and how many dated credits he was issued. Use of the AMA Physician's Recognition Award Computer Tabulated Information Service (PRACTIS) for documentation is encouraged.

Documentation in the original or by legible photocopies must be submitted to the Rhode Island Board of Medical Examiners with the application for the renewal of a medical license every three years. The first documentation is due with the November 1979 application, and those not in compliance with the law will after January 1, 1980 be without a license to practice medicine in the State of Rhode Island.

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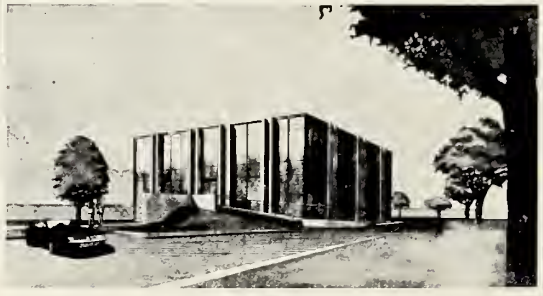

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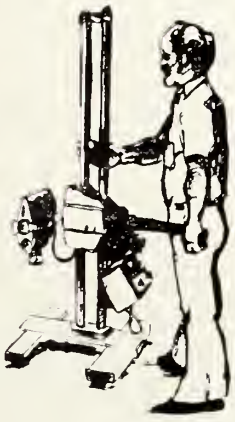

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Narrowing down pneumonias

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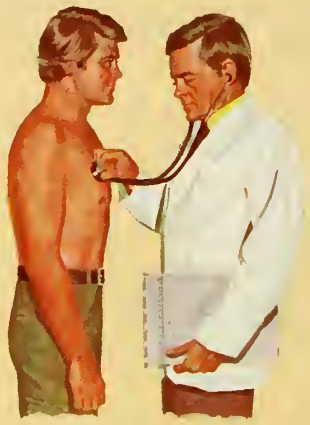
Bacterial or nonbacterial?

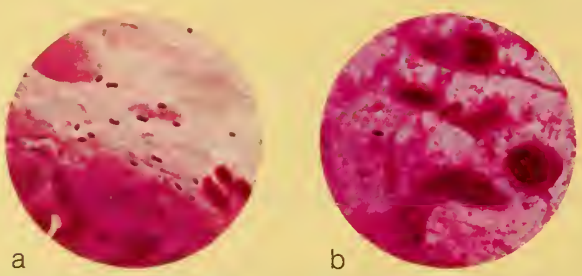
In the early stages of mild to moderate pneumonia, it is often difficult to reach an accurate bacteriologic diagnosis. A tentative differentiation may be made on history-taking, physical examination, CBC with differential analysis, and microscopic study of the sputum smear. Specimens should be obtained for culture and sensitivity testing, but when a bacterial pneumonia is diagnosed, therapy is often instituted before the etiological agent is positively identified.



Bacterial pneumonias may have a sudden onset with a shaking chill, rapid development of fever, pleuritic pain, and cough productive of rust-colored sputum. The Gram-stained sputum smear generally shows polymorphonuclear neutrophils as well as a predominance of the causative organisms. These are likely to be *Streptococcus pneumoniae*, still by far the most frequently encountered agent in bacterial pneumonia.[1] The CBC reveals marked leukocytosis with a shift to the left.

In *nonbacterial pneumonias*—mycoplasmal or viral—classical symptoms tend to develop more slowly, with myalgia, lassitude, and headache predominating. Sputum production is usually scanty, and the sputum smear is relatively uninformative, showing gram-positive cocci and other organisms which are part of the normal pharyngeal flora. The leukocyte count is normal or slightly elevated.

Direct Gram-stained sputum smears. (a) Pneumococcal pneumonia—note abundant polymorphonuclear leukocytes, as well as gram-positive diplococci. (b) Nonspecific—consistent with viral or mycoplasmal pneumonia. Note large mononuclear cell, as well as a few polymorphs and mixed bacterial flora (pharyngeal contaminants).



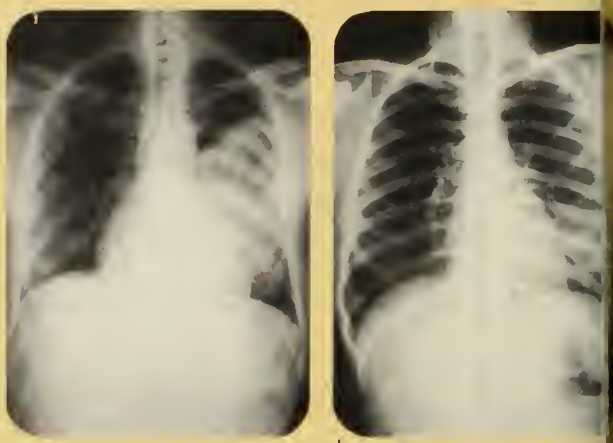
a b

Mycoplasmal or viral?

Differentiation between mycoplasmal and viral pneumonias may be impossible in the acute stage.

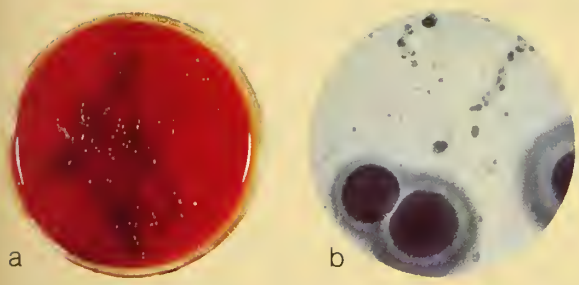
Serologic testing and culture methods for *Mycoplasma pneumoniae* are complex and time-consuming, taking as long as two weeks after obtaining samples. The sensitivity and specificity of the test for cold agglutinins have been questioned. The complement-fixing antibody test may reflect previous infection. Furthermore, facilities for culturing *M. pneumoniae* are not widely available.[3]

If treatment is to be initiated, therefore, it may be necessary to start on the basis of a *presumptive* diagnosis of mycoplasmal pneumonia.[1-3] In reaching such a diagnosis, the physician relies on clinical judgment, considering such factors as the age of the patient and the history of exposure. For example, *Mycoplasma pneumoniae* is considered the most common cause of pneumonia among ambulatory patients aged 20 to 35.[1]



a b

Chest x-rays of patients with (a) pneumococcal pneumonia—classically heavy, extensive infiltration of left lung; (b) mycoplasmal pneumonia—mild infiltrate confined to left lower lobe. Roentgenography usually does not help in differential diagnosis, since both types of pneumonias may present with a wide spectrum of x-ray as well as clinical findings.



(a) Distinct mucoid colonies of type 3 pneumococci *(Streptococcus pneumoniae)* on sheep blood agar showing greenish discoloration (alpha-hemolysis) of medium. (b) Typical "fried-egg" colonies of *Mycoplasma pneumoniae* consisting of dense central core with lighter periphery. Cultural and serologic methods for detecting *M. pneumoniae* are complex, time-consuming, and not widely available.

Expectant therapy

n the patient with a presumptive diagnosis of nycoplasmal pneumonia or bacterial pneumonia, it nay be desirable to initiate antibiotic therapy before culture and sensitivity results are available.

A course of erythromycin or tetracycline is considered effective in the treatment of mycoplasmal pneumonia to help speed the clearing of infiltrate and shorten the duration of symptoms.[1,3] In pneumococcal pneumonia, erythromycin is an effective alternative to penicillin, the drug of choice. A recent report, based on data from 200 hospitals of 100 beds or more, found 98% of *S. pneumoniae* sensitive *in vitro* to erythromycin.[4]

Among these therapeutic agents, only erythromycin provides effective coverage of both *Mycoplasma pneumoniae* and *S. pneumoniae*. The penicillins are not effective against *Mycoplasma*, and *S. pneumoniae* has shown a relatively high incidence of resistance to tetracycline.

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*Use cautiously in patients with severe liver impairment

REFERENCES: 1. Chusid EL, Dalrymple W, Holloway WJ, et al: Managing the infectious pneumonias. *Patient Care* 9:122-167, 1975. 2. The occasional might of mycoplasma pneumonia. *Emergency Med* 7:82, 85, 1975. 3. Stevens DA: Viral and Mycoplasma pneumonias. *Postgrad Med* 55:81-86, 1974. 4. Data source: PMR Bacteriologic Report, Winter Series 1975-1976. Data are a compilation of laboratory reports submitted during December 1975 and January and February 1976 by 200 acute care hospitals of 100 beds or more.

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Summary

Because pneumonias may be difficult to differentiate at the outset, treatment is often initiated before a causal diagnosis is made. However, readily available diagnostic criteria occasionally allow early differentiation between bacterial and nonbacterial pneumonias. When the diagnosis appears to be nonbacterial pneumonia, further differentiation between mycoplasmal pneumonia and viral pneumonia is more complex and time-consuming. Therefore, therapy is often initiated on the basis of a *presumptive* diagnosis of mycoplasmal pneumonia.

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†Although penicillin remains the drug of choice against these organisms, erythromycin is an effective alternative

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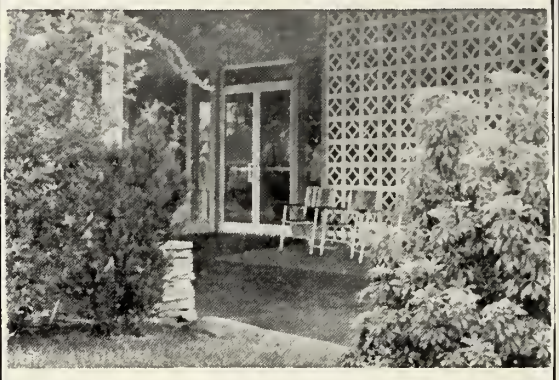

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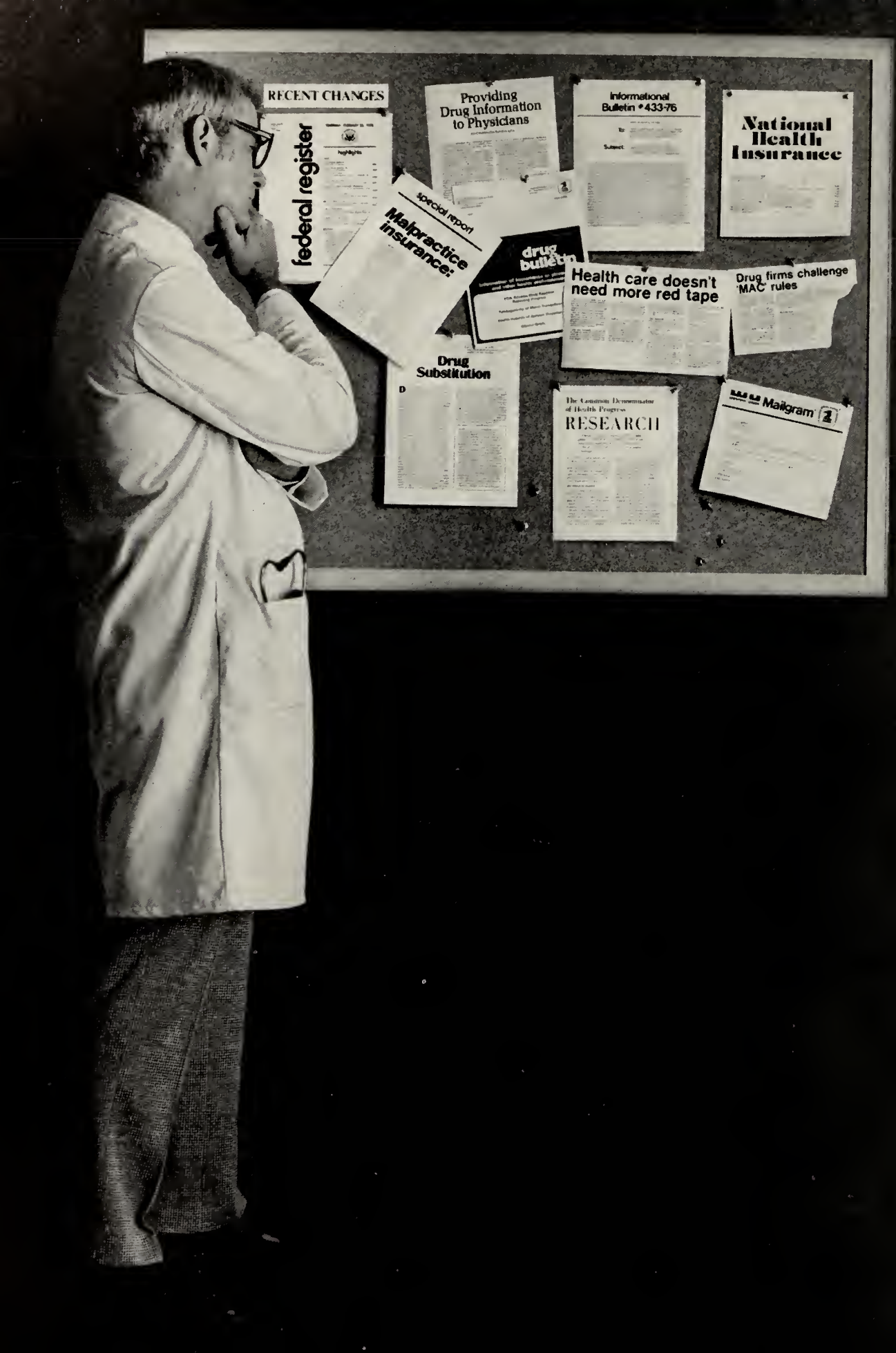
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Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

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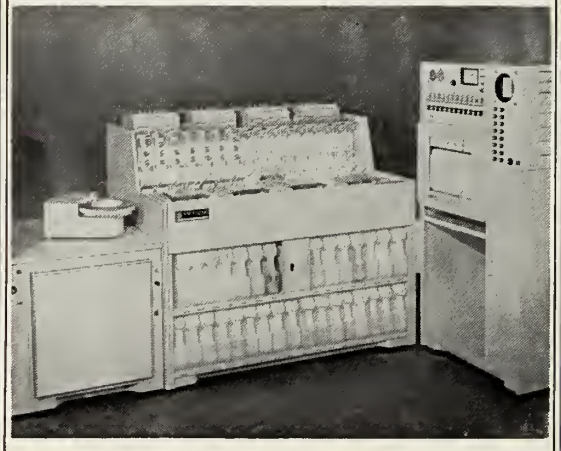

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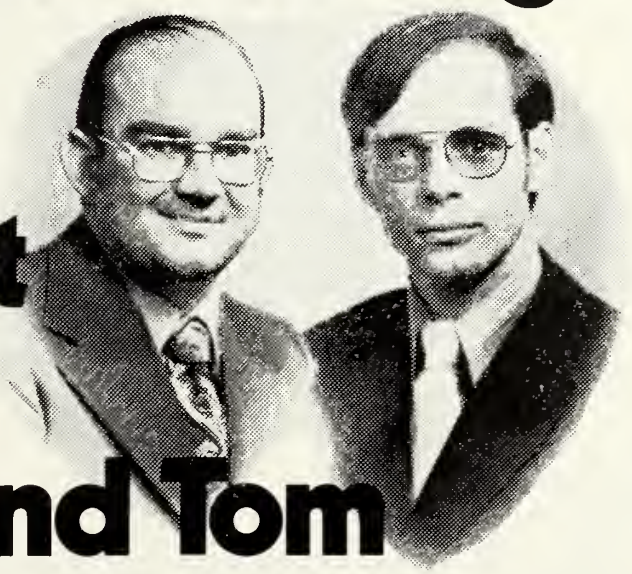

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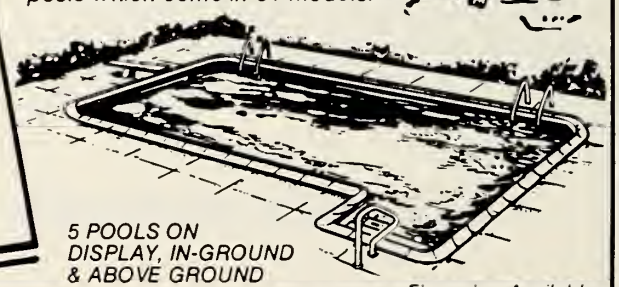

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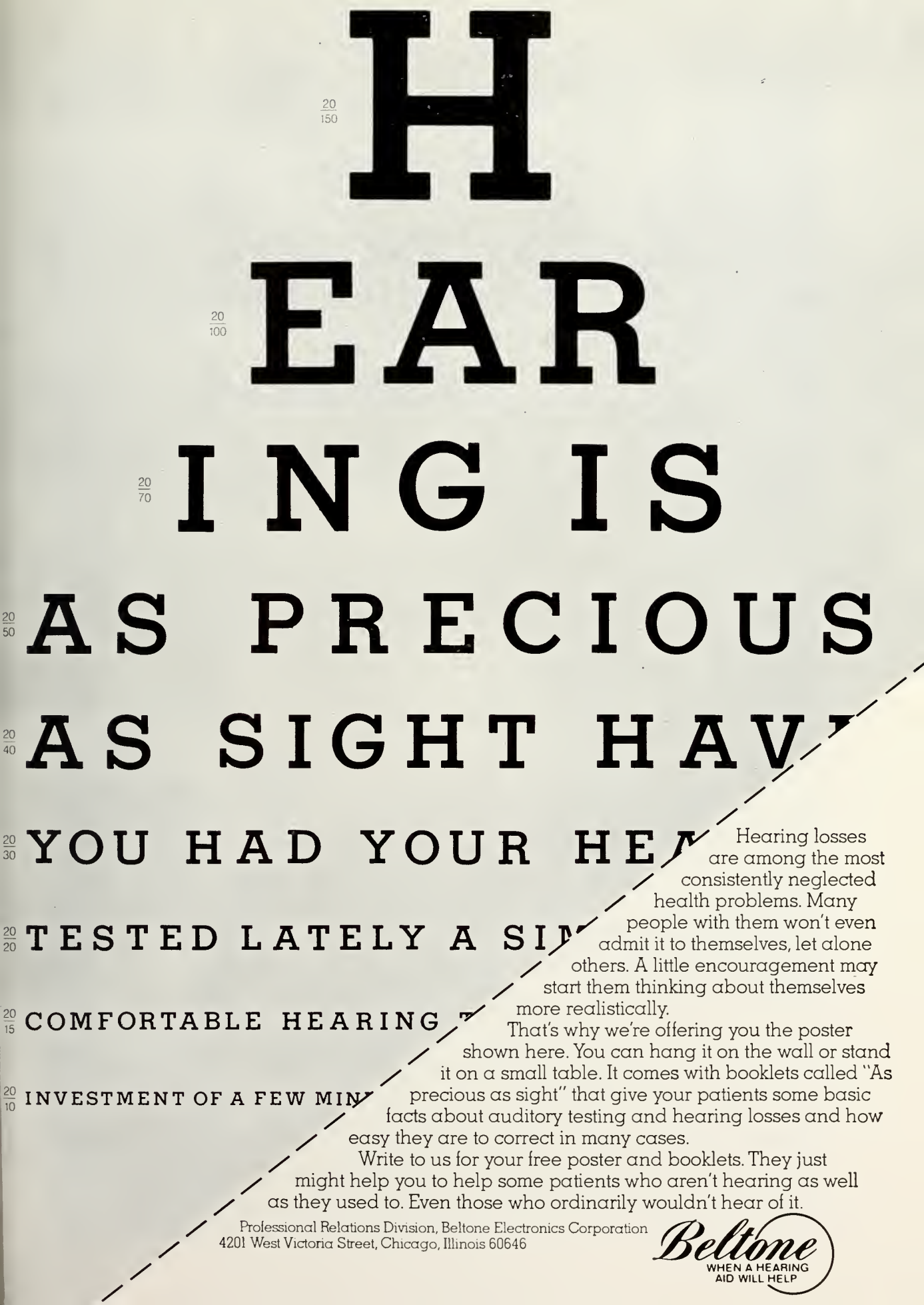

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Problems In Mental Health Care In Rhode Island

A Panel On The Development Of A Comprehensive Mental Health Network In Rhode Island

By Joseph M. Zucker, M.D.

INTRODUCTION

Is it a measure of the times that the Annual Meeting of the Rhode Island Medical Society is giving prime time not so much to Psychiatry, but to Mental Health in general? By "the times" I don't mean this part of the twentieth century, but to an increasing awareness and acceptance of the role of emotions in everyday living and especially their role in any illness and in medical practice in general.

As acute illnesses retreat and chronic illnesses become more prominent, one has to deal more with the problems of living. (Perhaps one might pessimistically define life itself as a chronic illness cured by death.) Recent studies over 10 year periods in a variety of cultures showed that 80 per cent of the population displayed mild, moderate, or severe symptoms of emotional disorder. Only 1 per cent of these were psychotic.

The key to contented living lies in the maintaining of personal and group integration, whether one calls it relating to one's self and others or living in harmony with one's self and others.

This panel, representing the current leaders in the administrative area of Mental Health in Rhode Island, points up the fact that nowhere in the fields of medicine do administration and treatment go so nearly hand-in-hand or have to be so closely integrated as in Mental Health. Well-integrated administration and interlocking consistent systems are necessary for consistent well-integrated therapists and therapy just as living consists of the interplay among well-integrated families, their well-integrated individuals, and well-integrated social groups.

It was pleasing to hear our President, Doctor Stephen J. Hoye, a surgeon, celebrate the Bicentennial with Benjamin Franklin's psychiatrically significant truism: "We must all hang together, or assuredly we shall all hang separately." (Adolf Meyer once defined the human being as "a hanging together of functions.") The four papers which comprise this symposium tell the story of the development of a comprehensive mental health network in Rhode Island.

JOSEPH M. ZUCKER, M.D., *President-elect, Rhode Island District Branch, American Psychiatric Association.*

Presented at the 165th Annual Scientific Assembly of the Rhode Island Medical Society, May 5, 1976.

222 Gano Street
Providence, RI 02906

I. The Non-Profit Voluntary Psychiatric Hospital And The Delivery Of Mental Health Services In Rhode Island: Past And Future

Current Developments Promise Increased Potential For Rehabilitation Versus Long Term Custodial Care

By Robert J. Westlake, M.D.

In November of 1650 Roger Williams, who had frequently noticed a distressed and incoherent woman roaming the roads of the village of Providence and surrounding areas, wrote a letter to the Town Council of Providence reminding them of their moral obligation to that woman. He concluded the letter with the statement, "We know not how soon we ourselves may be deprived of all or most of our reason . . . except mercy from Ye God of Mercies prevent it."

In the succeeding 300 years Rhode Island civic leaders, professionals, and citizens' groups have continued to remind government of a moral obligation towards the care of those suffering chronic mental illness. Despite the awareness of this enormous human problem, the incredible strides of scientific medicine, and vast improvements in social organization and health care delivery systems, the problem in this tiny state remains unsolved, and after more than 300 years we might only need to change the antiquated language of Roger Williams's letter in order not to be surprised to find it in the pages of our evening newspaper.

ROBERT J. WESTLAKE, M.D., *Clinical Director, Butler Hospital; and Acting Chairman, Section of Psychiatry and Human Behavior, Brown University Program in Medicine.*

Presented at the 165th Annual Assembly of the Rhode Island Medical Society, May 5 ,1976.

In this presentation I shall try to outline briefly some of the historical efforts at the solution of this problem with emphasis on the role played by the private practitioner and private non-profit psychiatric hospitals such as Butler Hospital. I shall also indicate what I see to be the future role of this sector of the delivery system as we move forward into an era which holds the promise of a solution for the problem of the care of the mentally ill in Rhode Island.

HISTORICAL BACKGROUND

Although some mentally ill were treated in general hospitals in Revolutionary times, the mental health movement in America began in the mid-1800's and was centered in medically run hospitals. At that time Dorothea Dix campaigned throughout New England to take the mentally ill out of alms houses and prisons and put them into humane surroundings for treatment. She crystallized many forces leading to the development of the powerful and important humanizing trend in the treatment of the mentally ill. In Rhode Island this trend, and the concern of many Rhode Island citizens, led to the establishment of Butler Hospital in 1841 and the beginning of the so-called "moral" treatment of the mentally ill.

In 1840 there were no hospitals of any kind for the treatment of medical or any other conditions in Rhode Island. Butler Hospital was the first hospital established in this state. It grew rapidly in the nineteenth

century and met a well-established need. It became known as a center in New England for the treatment of the mentally ill. Butler's leaders participated in the founding of the American Psychiatric Association, and by 1900 the hospital sprawled over the large Cyrus Butler farm on the East Side providing treatment for 250 patients, having its own school of nursing, publishing its own journal, and having its own psychiatric training program. Butler was clearly one of the leading psychiatric treatment and education facilities in America, but already it had begun to fall short of meeting the service needs of Rhode Island.

When Butler was first opened, it had a humanitarian orientation and took patients without regard for ability to pay. The size of the mental health problem quickly became apparent, and the hospital faced an important crisis. Would it continue to offer to a relatively small number of patients the high quality treatment which was the only hope for rehabilitation of the mentally ill in those days, or would it attempt to meet the entire mental health need of the Rhode Island population? Butler clearly did not have the resources to go it alone with regard to the treatment of the state's mentally ill patients and in addition was committed to a pattern of excellence in mental health care which often meant extremely long hospitalizations with a great deal of personalized attention which could be delivered only at considerable cost.

In response to this crisis the state demonstrated commitment and responsibility by becoming deeply involved in the direct treatment of psychiatric patients through the establishment of a state hospital in 1893. This hospital, although also established in a quiet rural humanitarian setting quickly became an overgrown mammoth institution in which the care of the mentally ill became more and more formalized and impersonal. What evolved, then, over a century was a dual system of mental health care delivery, which in many ways has persisted up to the present day.

NEWER DEVELOPMENTS

There are now several influences which begin to make this system less and less necessary. These include:

(1) The introduction of potent psychotropic medications and other somatic therapies.

(2) Shortened length of hospital stay for the average psychiatric patient.

(3) The ambulatory treatment of persons who would have formerly been inpatients.

(4) Development of a nationwide insurance system with both private and federal support.

Over the last 20 years there has been an increasing shift of patients from the public psychiatric hospital back into the private sector. Hospitals around the country, such as Butler Hospital, once thought to be an anachronistic vestige of Victorian times have experienced a rebirth and vigorous new life successfully treating clearly defined psychiatric illness in a heterogeneous patient population.

Butler Hospital, in addition, has recently been fortunate to be a participant in the growth of the Brown University Medical School and to be an identified locus for the Brown Section of Psychiatry and Human Behavior. Each Brown medical student spends six weeks during his or her third year at Butler in a basic psychiatry clerkship learning the rudiments of psychiatric diagnosis and treatment. In addition there is a three-year psychiatric residency training program which is centered at Butler, but which involves teaching and service in several of the Brown affiliated hospitals. Through its various educational efforts the Section of Psychiatry has begun to have and will continue to have an important effect on the delivery of psychiatric services in the state.

Now, how do all these diverse influences come together at this time to affect the current mental health care delivery system in Rhode Island? For a period of several years, a committee has been meeting to address this complex problem in a rational manner. The committee has had active participation of all persons concerned in the delivery of mental health care, including representatives of citizens' groups, public and private providers, and state government.

(Continued on next page)

MENTAL HEALTH CENTERS NETWORK

The outcome has been a carefully drafted and rather unique plan which involves the close cooperation of state authorities, community mental health centers, and private providers in the formation of a "network" of mental health services which will be available to all persons in Rhode Island, regardless of ability to pay. Under this plan state, local, and perhaps federal monies will go to a community mental health center, which will have the responsibility for providing services to all persons living within a given geographic area. The example that is nearest implementation, the Providence Community Mental Health Center, will be available to all persons who reside within the geographic boundaries of Providence. The community mental health center will supply all essential psychiatric services, and through the use of an intensive outpatient program will manage to treat many patients on an ambulatory basis who would formerly have had to be hospitalized.

PROVIDENCE CENTER

When hospitalization becomes necessary, however, instead of sending patients to the Institute of Mental Health, the Providence Mental Health Center will send them to Butler Hospital, where they will be treated in exactly the same fashion as any other Butler patient. In this manner the state will gradually remove itself from the direct provision of services to the acutely mentally ill of the Providence area. Those patients will have available to them the most modern and effective psychiatric therapies. Due to the fact that the available treatment will be more intensive and the outpatient support system more readily available, it is anticipated that hospitalizations will be shorter, the treatment of patients less expensive, and the rate of rehabilitation higher.

Butler will, of course, continue to function in its usual fashion, and patients referred from the community mental health center will account for only a small proportion of its total number of patients. Butler will continue to see outpatients and inpatients who can support their admission through their personal funds or through third party carriers. The primary difference will be that patients from the Providence area will not be deprived of these services because of inability to pay.

This partnership of public and private providers, while very difficult to arrange and requiring development of trust and understanding among all parties, holds great promise for bringing about a significant improvement in the availability of mental health services in Rhode Island. If we are able to make this plan successful within the geographic limits of Providence, it is possible that each area in the state may be able to develop an ambulatory treatment center and a hospital locale other than the state hospital for the treatment of inpatients.

The dual system of care may begin to disappear, and patients will be treated with a strong emphasis on ambulatory care, which tends to maximize their potential for rehabilitation, rather than on long-term custodial care, which extrudes disturbed persons from society and is largely unsuccessful at rehabilitation. Although there will undoubtedly continue to be a certain small proportion of patients who require long-term care which may still be directly provided by the state, it is hoped that this number can be reduced to an absolute minimum.

Current developments in the field of psychiatry, health care economics, and social planning have brought us to a very exciting point in the development of mental health care in Rhode Island. I am confident that through the continued collaboration of government with public and private providers we may be able to live up to the obligation noted 300 years ago by Roger Williams.

Butler Hospital
333 Grotto Avenue
Providence, RI 02906

II. Organizing The Mental Health Network In Rhode Island--The State Role

Partnership Of The State System And The Communities Is The Primary Goal

By Joseph J. Bevilacqua, Ph.D.

In 1851 Rhode Island became the first state to provide by statute for the involuntary commitment of the mentally ill. In the 125 years since that date a number of people feel that not enough has happened to improve the conditions of those who are mentally ill. In fairness to Rhode Island this feeling is not unique to this state.

The very active role of the courts in the mental health and retardation fields during the last 10 years has made visible through class action suits such concerns as the right to treatment, the right to education, and the proper role of work for patients in institutions.

A major focus of this attention has been the State Hospital whose proper use over the years has certainly been questionable. It is interesting to note, parenthetically, that, when Rhode Island passed the first statute for involuntary commitment, there was no State Hospital to which these patients could be sent. Butler Hospital preceded the State Hospital by 46 years and received those patients.

This history with its cycle of private and public mental health care being buffeted by the courts is still with us in 1976.

NEW ERA

Looking beyond 1976 I think it is fair to say that we are currently ending the era that began 125 years ago; and we are beginning a new one. Let me explain why I think that this is so.

In systems terms Rhode Island is beginning to put together a comprehensive network of services and facilities for the mentally ill. The re-emergence of Butler Hospital and the presence of the Brown University Medical School are very key pieces. The development of comprehensive community mental health centers at Newport and Providence and ultimately across the state is critical. The reorganization of the Institute of Mental Health (IMH) and its integral relationship to community programs through its geographic unitization, as well as the linking up to the training capacities of both Butler and Brown through the joint appointment of a Director of Training, represents the essential public commitment of the State Department of Mental Health, Retardation, and Hospitals.

Let me expand a little on the above comments. The department's refocus of its resources, goals, and objectives is not cosmetic. We are talking of a reorganization that will have an impact on admission policy, discharge policy, and the kind of care that will be provided.

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JOSEPH J. BEVILACQUA, Ph.D., *Director, Rhode Island State Department of Mental Health, Retardation, and Hospitals; and Lecturer in Psychiatry and Human Behavior, Brown University Program in Medicine.*

Presented at the 165th Annual Assembly of the Rhode Island Medical Society, May 5, 1976.

The three geographic units in the IMH are Providence, northern Rhode Island, and southern Rhode Island. This will immediately create for each of these regions a link to a counterpart in the IMH itself. All admissions from Providence, for example, will first move through the Community Mental Health Center. Indeed, we are developing a plan with the Community Mental Health Center that provides for no acute admissions to the IMH, but rather stipulates that Butler Hospital will provide the service for the Providence community through the Mental Health Center. We envisage in the future similar agreements with the other two regions. Doctor Cannon will describe this first phase in his presentation.

If admissions are controlled in this manner, discharges will then have the same linkage, assuring that patients will not be released indiscriminately. Planning with the appropriate community center and proper follow-up will be initiated and implemented prior to the discharge. In fact, the continuity of care will begin with the first contact the patient has with the community; and, regardless of the course of treatment, he will always be part of the network.

Given the more structured admission and discharge policy, the more difficult question relates to the role of the IMH itself. I might add, by the way, that the Rhode Island Mental Health Law mandates exactly the kind of procedure I have outlined. Its requirement of least restrictive alternatives is considered in each case of involuntary commitment.

ROLE OF THE STATE HOSPITAL

There is no unanimity on the question of role for the State Hospital. My own view, quite simply, is that whatever our role, it should be accomplished in the most effective manner with the highest quality of care.

We clearly should not duplicate services that exist elsewhere. The care of acute psychiatric conditions, I believe, is better dealt with at the community level. Family, work, and the natural rhythm of life are better maintained there.

The problems of the chronically ill and the need for long-term care require resources and technology that are difficult for communities to support. I believe there is a legitimate role here for the State Hospital. I am aware, however, of the danger and recognize the need to study more carefully the delicate balance between rehabilitative care and the type of management characterized by the terribly imprecise and inadequate term "custodial care." It is for this reason that I welcome and support the strong relationship we are building with the Brown University Medical School and Butler Hospital. Research and scholarship should not be alien to a public-supported hospital. Because the State Hospital has unique problems, all the more reason for all of us to view it as a special facility.

As such, we must envisage and encourage its role in research and training. We should see the State Hospital of the future as a resource center for the whole state. Special populations, such as geriatric, forensic, adolescent, and emotionally ill retarded, require a support apparatus that is conducive to a centralized facility such as a State Hospital. The important point is that services for these high risk populations should not be seen as necessarily terminal activities. In the past they have been seen in this light because the state system has been expected to meet a myriad of needs with no differentiating criteria being identified.

The broadening of the base of the state system into a partnership with the communities, and the creation of a network of comprehensive mental health services that will serve all of our citizens from all walks of life, is the primary goal of the Department of Mental Health, Retardation, and Hospitals.

600 New London Avenue
Cranston, RI 02920

III. Community Mental Health In Rhode Island

Cooperation And Coordination With Government And The Private Sector Will Deliver More Mental Health Services

By Michael A. Ingall, M.D.

Having worked in community mental health for the past five years, I am less able to define what the term means than I was when I began in this field. For the purposes of our discussion here today let me define the term somewhat simplistically as a system of mental health delivery which is designed to improve the mental health of citizens who live within a particular catchment area. (The term "catchment area," an unfortunate piece of mental health jargon, derives from the field of sanitation engineering and refers to a collecting basin into which all of society's refuse ultimately flows. I leave the philosophic implications of this term to the philosophers.)

PROVIDENCE MENTAL HEALTH CENTER

I am a psychiatrist and am medical director at the Providence Mental Health Center, which is one of 12 community mental health clinics throughout the state of Rhode Island. Any resident of the city of Providence is eligible to receive our services. At the present time we have about 20,000 patient visits per year. Many of our patients pay a fee on a sliding scale, which ranges from $2 to $35. The majority of paying patients pay a fee of $2 or $4 per visit, but 60 per cent of our patients are medically indigent and pay no fee at all. Nor are the services for their treatment reimbursed by third party payers, since the Medicaid office in this state has ruled that free-standing clinics are not eligible for reimbursement. The majority of our funding currently is received from a matching city-state grant; each 40 cents that we receive from the mayor's office in Providence is matched by 60 cents from the Department of Mental Health of the State of Rhode Island. Our total budget for the past year approximated $500,000. With this budget we try to carry out our mission of providing mental health services in the community to any resident of the City of Providence. That comes to about $3 per person. Nevertheless, following the principles of community mental health, utilizing new and proven pragmatic and when possible brief modalities of psychiatric treatment unencumbered as yet by a bureaucracy, civil service, and unions, we are trying to meet the need.

One of the emphases of community mental health is early identification and prevention of serious mental illness. One of our component services, the Pre-School Program, works in Head Start day care centers to identify children who before the age of five show significant emotional and cognitive disturbances. Our staff works with these

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MICHAEL A. INGALL, M.D., *Medical Director, Providence Mental Health Center; and Clinical Assistant Professor of Psychiatry, Brown University Program in Medicine.*

Presented at the 165th Annual Scientific Assembly of the Rhode Island Medical Society, May 5, 1976.

children, their families, and their teachers in the classroom to set them on the road towards achievement and greater self-esteem. By keeping our waiting list short through the use of brief psychotherapy whenever possible, we try to make our services available to adults at the early stages of a crisis when there is still time for healthy resolution of that crisis. The problem is that this public health approach to problems makes sense to those in the field of health, but not always to the public, to the government, and to the taxpayers. If we were forced next month to eliminate our services to children and to non-psychotic adults, the hue and cry would hardly compare to the one which would be caused by our elimination of after-care services, that is our services to approximately 700 patients who over the years have had repeated hospitalizations at the state institutions and now, by virtue of the care that they receive at our center, are able to live often remarkably productive lives in the community. If we were forced to reduce our services to this population, their relatives, the police department, and the state and city government would be up in arms over the "public health menace" that they would become, as well as with the financial burden they would present to the state by virtue of their being chronically hospitalized at the State Hospital at Howard, Rhode Island. Thus, rehabilitation actually gets more emphasis than primary prevention.

MULTI-DISCIPLINARY APPROACH

One of the true contributions of community mental health has been the emphasis on the multi-disciplinary or team approach, utilizing psychiatric social workers, psychiatric nurses, psychologists, and mental health workers, all under the direction of a psychiatrist, to provide services. We will never find enough psychiatrists for reasons of manpower, economics, and socio-cultural bias, to work in community mental health centers. Workers from other mental health disciplines that I have named above can be extraordinarily capable care-givers who more than meet the needs of the patients that they serve. The problem is that not everyone accepts their competence. Despite studies that show that senior medical students in a psychiatric clinic can achieve the same impact on symptom reduction in short-term treatment with patients as senior psychoanalysts, some doctors who refer to our clinic insist that their patients be seen only by psychiatrists, and not by "social workers or nurses." Moreover, third-party payers are reluctant to reimburse for services other than those provided by a psychiatrist.

Another emphasis of community mental health is on short-term treatment. For years psychiatry has been criticized for the length of time that it takes for people to get better. However, newer treatment techniques, including time-limited psychotherapy, behavior modification, reality therapy, and pharmacotherapy, have achieved wonders in symptom and sign reduction and in general patient improvement. The problem is that some patients simply need longer term treatment. While we are able to use group therapy in many cases to provide this, we at the Providence Mental Health Center are simply stretched to the limit in being able to provide long-term therapy for those who could benefit from it. If we were to do so, our waiting list would within a month jump to over a year in duration.

ALTERNATIVES TO HOSPITALIZATION

Finally, community mental health lays emphasis on the utilization of alternatives to hospitalization. These include the use of crisis-oriented outpatient treatment, intensive pharmacotherapy, day treatment centers and partial hospitalization, home visiting, consultation to other community agencies, and supportive family treatment. The problem is that almost all third-party payers operate under a system that favors hospitalization, where services are covered almost in full while the patient is in the hospital, but only at one-half or not at all if the patient is in any other modality of treatment.

As Doctor Westlake has just described, we have applied for a substantial amount of federal funding which would enable us significantly to expand our services. We will know in June whether or not this grant has been approved and whether or not the Providence Mental Health Center, in conjunction with the Department of Mental Health, Butler Hospital, Rhode Island Hos-

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IV. A Reallocation Model For Limited Health Resources

Sharing Of Services And Programs To Reduce Duplication And Underutilization Is The Road To De-Regulation

By Joseph E. Cannon, M.D.

The health care scene has undergone extraordinary transformations during the last decade. When I first arrived in Rhode Island, the health facility regulatory arena consisted primarily of very minimum standards for hospitals and rest homes embodied within licensure statutes and regulations. Now much of my time is involved with various regulatory functions over health facilities, and the complexity of those controls is increasing at such a rate that I often wonder if I should have gone to law school instead of medical school. The regulatory role of public health departments is not a comfortable one and is one which I, for one, have not sought to expand. The new controls have been thrust upon us as a result of a combination of medical and sociological changes which have changed the field of health into a mammoth industry comparable to the utilities, railroads, and communications fields which have served as the prototypes for regulatory controls.

ADVENT OF MEDICARE AND MEDICAID

In 1965 Congress saw fit to provide relief to the problem of patient access to health care, which became evident as the general practitioner began to take on the appearance of an endangered species, through a categorical approach, whereby the federal government became a financing vehicle to enable the poor and the aged to receive medical care in spite of economic barriers. In response to the charges of eventual "socialization of medicine" the federal government made very clear that its intent was in no way to involve itself in the practice of medicine, that it wished to preserve a "hands off" approach with a sole commitment to the improvement of access to the most disadvantaged population groups. The present situation would tend to belie that intent, but I assure you, as a student and victim of the increasing regulation in health, that it was inevitable, given the behavior of those most affected.

As a result of Medicare and Medicaid, recognizing that private physicians dispensed a considerable amount of free or reduced charge services prior to 1965, physicians incomes were boosted and presumably patients were better off.

Unfortunately, a number of other factors have transpired in the social fabric of American life which have muted, to a certain extent, the advantages of these two programs. Medicine's entrance into the scientific age came into full bloom; the cost of medical education has assumed astronomical proportions. As a result, the new practitioner gains little from his higher income in real terms.

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JOSEPH E. CANNON, M.D., *Director, Rhode Island State Department of Health.*

Presented at the 165th Annual Scientific Assembly of the Rhode Island Medical Society, May 5, 1976.

In addition, the erosion of the physician-patient relationship, as the communication barrier between the scientifically trained physician and the layman continues to widen, has affected physician income from the standpoint of liability insurance. Together, the abuses of a minority of physicians and increases in health care costs have led to the imposition of more controls on spending and utilization as Congress' initial prognostications of the costs of its program were exceeded by several orders of magnitude.

RISE OF HEALTH CARE COSTS

I'm sure I don't have to run through the list of factors which cause health care and, specifically, hospital care costs to increase — general inflation, increased professional salaries, increased employee salaries, unionization, introduction of new and more machines, introduction of new and more manpower, high costs of new construction, adoption of new programmatic responsibilities, and insulation of insurance mechanisms. You are also, I'm sure, aware of the literature on health economics which shows the imperfections of the health marketplace — the lack of alternatives available to the consumer, the lack of information available to the consumer, and the central position of the physician as determinant and provider of needed services. Suffice it to say that in Rhode Island in 1973, approximately $512 million was spent for health expenditures or approximately $525.92 per capita. This per capita health expenditure was 13.6 per cent higher than that for the United States in 1973. Just in the two year period from 1971 to 1973 health expenditures increased by nearly $100 million in the State of Rhode Island. For the United States as a whole, health spending during fiscal 1975 has climbed to $118.5 billion for a per capita figure of $547. Nationally, our annual health expenditures are $80 billion higher than they were in 1965, and they now represent 8.3 per cent of the Gross National Product. Government itself is currently the funding source for 40 per cent of all health expenditures and 55 per cent of hospital expenditures. It is no wonder, therefore, that public policy officials in Washington are more than a little concerned, particularly since health has a low priority for the average American and the massive influx of dollars has done little to alleviate the poor ranking of the United States on several morbidity and mortality indicators in comparison with other countries in Western Europe.

COST CONTAINMENT

The answer has been to tighten controls on providers — and particularly on the hospital sector — representing as it does 42.3 per cent of total expenditures in Rhode Island and 38.6 per cent nationally — through certificate-of-need, through rate review, through medical review and independent professional review of patient placement, and through the espousal of health maintenance organizations and professional standards review organizations. But essentially it has become increasingly obvious that resources in health care are limited and that the economy cannot support diversion of ever larger proportions of its resources into the health care market.

Solutions are being continually proposed. Cutbacks of social programs such as Medicare and Medicaid are politically unpalatable from the perspective of physicians, hospitals, and patient advocacy groups; national health insurance cannot be made a reality without some assurances that cost containment can be effected. In the absence of a feasible single solution to the entire issue reallocation becomes a priority effort, and the high visibility of hospitals makes them the focal area for effecting cost containment through reallocation.

While the effort to stem the time of fragmented institutional planning has achieved extremely limited success in Rhode Island to date, a major step in the right direction was achieved in the course of the recent approval of the Butler Hospital capital development program. The Department of Health played the role it has long advocated, that of a catalyst, which acts to speed up a reaction which would ordinarily take place while preserving itself to effect future reactions in a like fashion. The Health Services Council, which serves as my advisory body on certificate-of-need or, what we prefer to term, resource allocation decisions is essentially a consumer dominated reactive body. Proposals are brought before it, and

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A Crisis For Program Evaluation: An Embarrassment Of Opportunity

Cooperation Is Essential If CMHC Program Is To Help Solve Service System Problems

By C. Windle, Ph.D.

In the Community Mental Health Center (CMHC) Amendments of 1975, Congress mandated that centers must conduct Program Evaluation (PE). This requirement includes three types of program evaluation functions. 1. Peer and utilization review to assure quality of services is the type of review required for facilities to qualify for reimbursement under Titles 18 and 19 of the Social Security Act. These procedures may be a precursor of the requirements a future National Health Insurance may impose. 2. Self-evaluation must be done annually covering certain specified topics: cost, patterns of use, availability, accessibility, acceptability, and impact on catchment area residents. 3. The evaluation data must be disclosed annually and reviewed with catchment area residents. These requirements appear to be a victory for science and rationality in program management. But this requirement also creates a crisis both for advocates of program evaluation and for program managers. The Chinese ideograph for crisis combines the symbols for danger and opportunity.

C. WINDLE, Ph.D., *Program Evaluation Specialist, National Institute of Mental Health, Rockville, Maryland.*

Presented at the Region I Program Evaluation Conference, Providence, Rhode Island, May 27, 1976. The views expressed are the speaker's and do not necessarily represent the views of the National Institute of Mental Health.

The main opportunity is that PE may help services become efficient and appropriate and, even more important in the short run, may be widely known to be efficient and appropriate. This assurance will qualify services for third party reimbursement programs, leading to more and better services, more mental health for the population, and honor and riches to the mental health providers and their agents, the program evaluators.

The dangers are that PE will divert resources from services, unfavorable findings may hurt service program viability, and untrustworthy or useless program evaluation will discredit the function of program evaluation.

Because I believe in truth in advertising, I want to admit that I am a researcher and therefore primarily an advocate of program evaluation. But I am very much afraid that the dangers will dominate — that program evaluators will fumble the football — in part because the ball is slippery, in part because they've not learned to run with the ball, and partly because they'll get a bad pass from program managers.

MY THESIS

The alarm which I am sounding should not be taken as the position of the National Institute of Mental Health (NIMH), but rather reflects my more parochial and personal interests as a program evaluator. I'm afraid

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that Program Evaluation is being set up for failure by the requirements in P.L. 94-63. To require PE, and ear-mark money for it within each CMHC, is a fairly desperate effort to give PE a chance to improve management in CMHCs. This heavy-handed approach will incur resentment from clinicians and administrators if it is not clearly effective. To have you share my concern, so that you may be agitated to help find solutions, I want to review (1) what I see as the actual impelling reasons for PE, (2) the limits PE has in meeting these motives, and (3) some potential solutions.

NEEDS FOR PROGRAM EVALUATION

Let us look more carefully at what functions PE should serve. The usual argument is that PE will enable managers to make decisions more knowledgeably. However, the current major impetus for PE is to solve three serious problems in the mental health care system.

Costs. There has been a frightening increase in costs of services and a lack of acceptable mechanisms to hold down costs. Costs have increased both absolutely and as a percentage of the Gross National Product.[1] The average American family now spends 10 per cent of its income on health costs. The problem has two aspects. As our society has assumed the responsibility for the problems of the disadvantaged, the size of this burden becomes more apparent and reluctance to carry the burden grows. Further, structural conditions within the health care system lead to increased costs and lack of controls on these costs.

Charlotte Muller[2] has described how market forces create over-medication. Each actor in the market place makes trade-offs between use of medication and other alternatives. Drug companies try to maximize profits, while physicians try to save time and costs and yet satisfy patients. Patients depend upon physicians' judgments. Similar factors may lead to overuse of psychotherapy.

A 1972 systems analytic report to Congress by the Health Services and Mental Health Administration[3] listed the following weaknesses of the health care system:

(a) Lack of coordination among provider units leads to duplication of costly facilities, maldistribution of resources, and lack of continuity of care.

(b) Legal restrictions on medical practice limit the use of paramedical personnel.

(c) Emphasis on fee-for-service, more insurance for inpatient than alternative forms of care, and full cost hospital reimbursement encourage more costly care and over-prescription of marginally needed services and deter care at the early stages of illness.

(d) "The pervasive influence of the medical profession" has made "the health system more responsive to the interest of the profession than to the needs of the consumers."

Structural Inefficiencies and Inequities. Some critics charge that the self-serving characteristics of care-providers create at the least much inefficiency and at most damage to clients.

Concern with equality and efficiency of services is leading many critics to condemn **The Exploitation of Illness in Capitalist Society.**[4] The Health Policy Advisory Center portrays a health system dominated by a medical empire of schools and hospitals, a financing-planning complex, and a medical-industrial complex which serves ends other than health care.[5] Health-PAC argues that this system should be changed by giving control to users and payers for care.

Even more drastic criticism of "medicalization" is made by Illich in a recent book, **Medical Nemesis: The Expropriation of Health.**[6] He argues that "the medical establishment has become a major threat to health." His starting point is iatrogenic illness, caused by physicians, including side effects and results of long-term medications. He extends clinical iatrogenesis to social or structural iatrogenesis: policies and practices which encourage people to accept sickness rather than rebel against living conditions and that undermine our trust in ourselves as self-healing organisms. Illich's recommendation, shared by some physicians, is for a devolution of responsibility down the medical hierarchy and a movement from hospitals to the patient's home.

These structural conditions are not limited to health care. There is an excellent article on "Consumer Action Research," which points out the imbalance between the power of pro-

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Editorials

MENTAL HEALTH CARE IN RHODE ISLAND

This issue of the **Journal** is devoted to the problems of mental health care in Rhode Island. More specifically the focus of interest is on the story of the development of a comprehensive mental health network in the state. Rhode Island has been in the vanguard of progressive care for the mentally ill from the time of the founding of Butler Hospital in 1841 to the present, as evidenced by the recent establishment of a network of mental health centers.

Rhode Island in 1851 was the first state to provide by statute for the involuntary commitment of the mentally ill. As Doctor Bevilacqua emphasizes, however, the proper use of the State Hospital "over the years has certainly been questionable." The current trend is to keep as many as possible of these unfortunate human beings in the community. This has been made feasible in recent years not only by advances in psychotherapy and the psychotropic drugs, but also by the evolution of the modern philosophy of mental health care. As visualized by Doctor Bevilaqua "the continuity of care will begin with the first contact the patient has with the community; and regardless of the course of treatment, he will always be part of the network."

The establishment of the state Mental Health Network and the Day Hospital at Butler Hospital are important developments. The shortening of length of stay in the acute psychiatric facilities and in fact in the state Institute of Mental Health itself, as well as the decrease in census in the latter facility, are encouraging signs, Perhaps the day will come when warehousing of the mentally ill will be but a memory and large state facilities such as the Institute of Mental Health will be of historic interest only.

HEALTH CARE COSTS

General Motors spent 825 million on health care benefits for its employees in 1975. It is estimated that health benefits averaged $1,-800 per employee, or the equivalent of $175 toward the cost of every car and truck built last year. Chrysler, Ford, and GM will spend about $1.4 billion for health insurance for their workers this year, or more than the cost of steel.

These very significant costs are obviously of great concern not only to the automotive industry, but also to industry and the public in general. Where does the future lie? For organized labor and the liberal politicians a government operated national health service is the facile answer. The deterioration of the National Health Service in Britian certainly is reason alone to move with great caution in this direction.

The rapidly rising cost of hospital care in this country is the greatest single element in the escalation. A number of methods have been proposed or are already in place to cope with this problem. HMOs have not set the world on fire and will never be widespread or popular enough to solve the problem of cost containment, if indeed they have that

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potentiality. Limitation of the bed supply, services, and equipment as applied by health planning agencies contributes to cost containment. The proliferation of open heart surgery equipment and cobalt machines have now been replaced by linear accelerators and CAT scanners as the focus of attention. PSROs are very slowly coming on the scene. Their role and effectiveness in cost containment is yet to be proven. Laboratory diagnostic and treatment modalities proliferate almost by geometric progression.

We do not feel that answers are readily available, or that we can offer quick solutions. That is the privilege of the social planners and politicians who have never seen a patient in anger.

There are areas of activity, however, that in the future will demand more critical appraisal. National Blue Shield recently established a task force to evaluate procedures and methods for cost effectiveness. What useless operations are still being done in significant numbers? What frequently used laboratory procedures have a low yield of results leading to useful and beneficial treatment? What tests have been proven essentially valueless and are still widely in use? How much unnecessary laboratory work is ordered by interns, residents, and consultants in teaching institutions? How much unnecessary laboratory and x-ray work is being ordered in hospital accident rooms, in the rapidly proliferating free-standing emergency rooms, and in doctors' offices? These are the types of activity to which PSROs, it is hoped, will eventually bend their efforts.

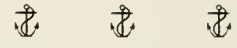
It is our belief that length of stay surveillance and the control of unnecessary admissions still leave some room for finer tuning, but the large savings of the future lie elsewhere. The fear of malpractice claims will eventually recede, relieving the profession to a significant degree of the need for defensive medicine. A critical look at everything we do in the professional care of patients for established need and true cost effectiveness in terms of patient benefit is the way we must go in controlling costs.

Editor's Mailbox

To the Editor:

I am currently engaged in research on the MHA (Munchausen Hospital Addiction) Syndrome and its variants. I would like to correspond with any any other physicians who have had personal contact with such patients. To this end I would appreciate it if you would print this letter in your Correspondence (or Letters) section. All responses to be addressed to:

S. E. Hyler, M.D.
5620 Netherland Avenue
Riverdale, NY 10471
U.S.A.



III. COMMUNITY MENTAL HEALTH IN RHODE ISLAND

(Continued from page 500)

pital, and a network of other community agencies, can become a viable alternative to the current revolving door at the state institutions. When you hear talk of decentralization of services, alternative to hospitalization, de-institutionalization, and treatment in the community, it's we they're talking about. For now, the Providence Mental Health Center is located by design in the heart of the area of highest prevalence of mental illness in the city, at 355 Broad Street. We look forward to the day when, through co-operation and co-ordination with government and with the private sector, we can deliver more mental health services to those in our community who need them.

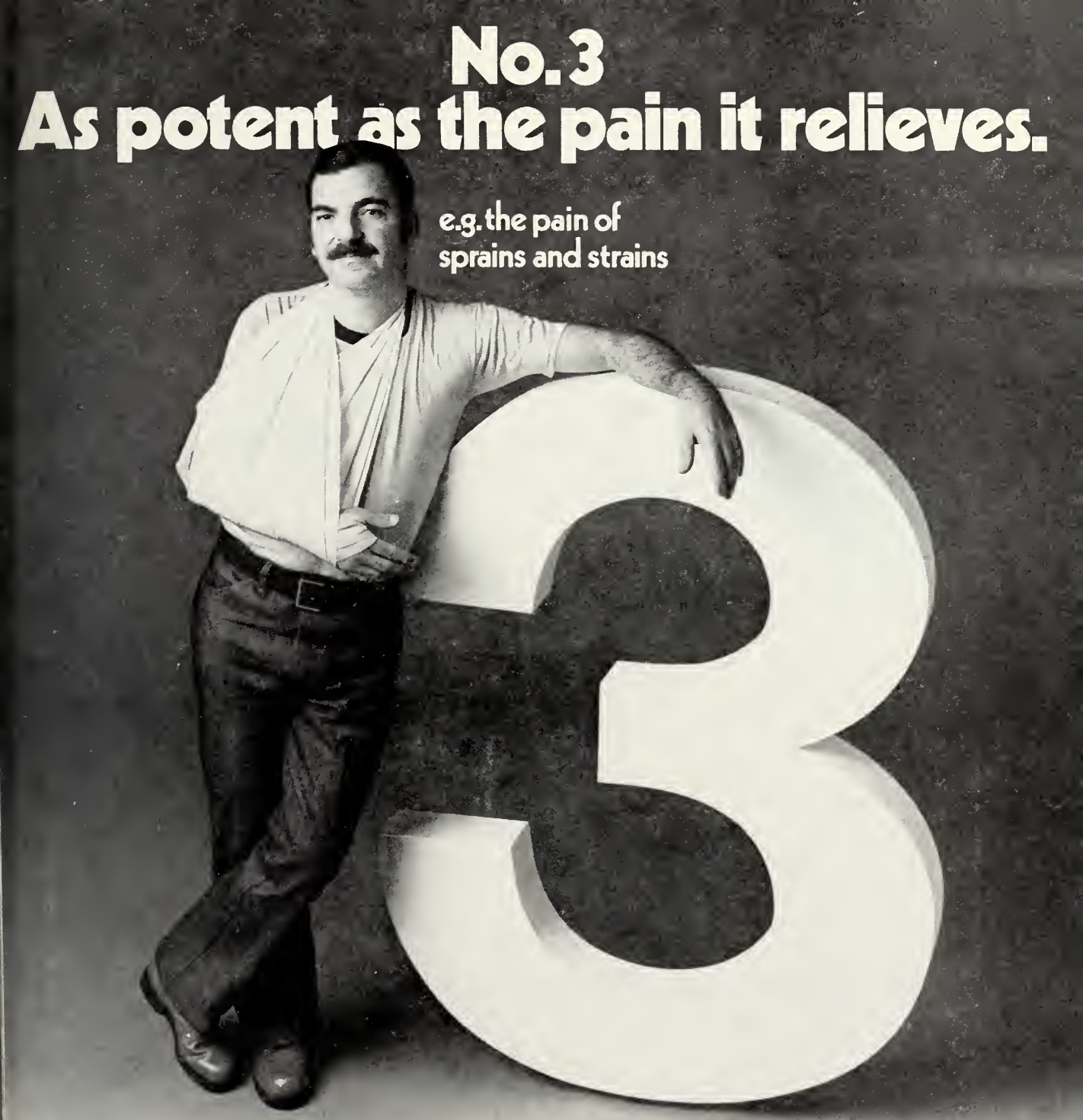
355 Broad Street
Providence, RI 02907

ONE SENTENCE ESSAY

The secret of caring for the patient is caring for the patient.

. . . Francis Peabody, M.D.

No. 3
As potent as the pain it relieves.



NOT TOO LITTLE

- as potent as the pain you need to relieve in patients with fractures, sprains, strains, wounds, contusions, and the pain of surgical convalescence
- unlike acetaminophen/codeine combinations, it does not sacrifice anti-inflammatory action

NOT TOO MUCH

- potent—yet not excessive
- addiction liability low

NOT TOO EXPENSIVE

- brand-name quality, yet reasonable in cost
- readily available in both hospital and local pharmacies

CONVENIENCE

- telephone Rx in most states, up to 5 refills in 6 months at your discretion (where state law permits)

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IV. A REALLOCATION MODEL FOR LIMITED HEALTH RESOURCES

(Continued from page 502)

the Council, through the perspective of its membership which includes physicians, hospital administrators, and trustees, attempts to determine whether the proposed expenditures are merited on the basis of need.

REALLOCATION OF MENTAL HEALTH RESOURCES

The Butler proposal represented a major effort of many agencies, and its resolution involved the cooperation of many more. The ideas did not originate within the Department of Health but from the recognition by the Butler Hospital that eventual deinstitutionalization at the State Medical Center in Cranston is a worthy and paramount goal of the Department of Mental Health, Retardation, and Hospitals; and that the community mental health center networks, based on federal and state statutes of 12 years' standing are achieving fruition through the cooperative efforts of the Department of Mental Health, Retardation, and Hospitals and the individual community mental health boards. The Department of Health through its Health Services Council merely brought into the open an issue of potential reallocation which the parties were able to achieve.

The Council, which has not approved an additional acute care bed since its inception in 1970, was presented with an application for construction of 24 additional beds servicing an identical population to that currently

(Continued on Page 509)

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Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

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Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children. Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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being serviced by the Institute of Mental Health. Although the mental health section has often been considered separately from the physical health sector in planning and funding allocations, the regulatory arm of the Department of Health cannot make such a distinction in terms of health resources. The funding sources are immaterial, since all funding sources ultimately derive from each of us as consumers and taxpayers. Both sectors had to be considered fundamental arms of the overall health sector. As it became obvious that approval of the additional beds could not be countenanced without eventual removal from the system of resources approaching the magnitude of the resources to be introduced, in this case beds along with the personnel, capital, and program expenses attendant on them, the parties strove for a resolution utilizing a reallocative approach. Eventually, representatives of the Department of Mental Health, Retardation, and Hospitals, Butler Hospital, the State Budget Office, and the Providence Community Mental Health Centers after an extensive fiscal review were able to recommend an eventual transfer of acute inpatient services from the IMH to Butler through the closing of IMH beds and the adoption of strong formal linkages between the Providence Community Mental Health Center, Butler Hospital, and the Department of Mental Health, Retardation, and Hospitals. The cooperative spirit in which this cost and treatment effective reallocation was achieved was a model for the remainder of the health community.

ROAD TO DE-REGULATION

I am not pleased with the direction of current regulatory efforts mandated by state and federal governments, and I hope that health institutions will soon awaken to the realization that proactive planning on their part — hard decisions as to which hospitals should expand and which should begin to diminish — is the only road to diminished encroachments by government. The adoption

(Continued on next page)

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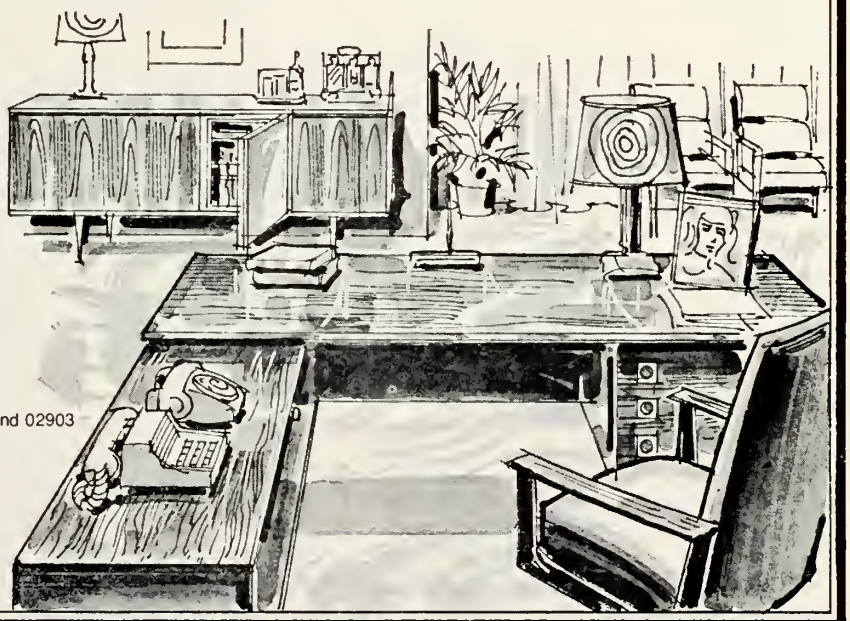

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of formal linkages with other health care facilities and the sharing of services and programs to reduce duplication and underutilization of programs and services are beginnings on the road to de-regulation.

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A CRISIS FOR PROGRAM EVALUATION: AN EMBARRASSMENT OF OPPORTUNITY

(Continued from page 504)

ducers and consumers in the market place for most goods and services.[7]

The third problem impelling PE is the still **underdeveloped** nature of mental health care **technology.** As long as we have only a hazy idea of the etiology of mental and emotional problems and the effects of various treatments, we can't expect services to be highly effective. Similarly, past studies to evaluate the CMHC Program found that centers fell short on the initial goals of primary prevention, impact on use of state hospitals, and citizen participation. The administrative complexity of the Centers' Program was greater than forseen.[8, 9]

LIMITATIONS OF PROGRAM EVALUATION

If these serious problems in the mental health care system are the reasons that program evaluation is being called upon, we should not be surprised if program evaluation will soon be judged a failure. Let's consider two general characteristics of PE and then

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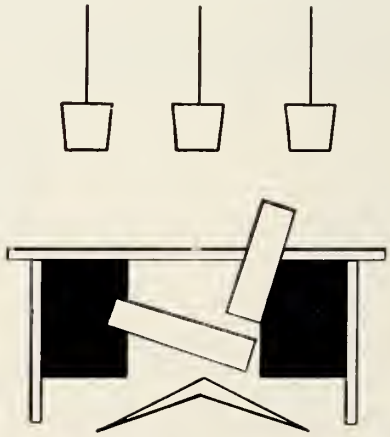

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the likely impact of PE on the three conditions causing interest in PE. (a) **Disjunction from Managers.** The first general characteristic is the basic weakness for practical application PE has inherited from its background as a form of research. Generally, program evaluation has not been closely tied into management in such a way as to influence managers' decisions. Often there's a gap between the interests and orientations of researchers and program managers. Further, there is often little incentive for managers to use program evaluation. Rewards for management come from people's impressions of the effectiveness and efficiency of a program. These impressions can be formed more easily by advertising and public relations than by making program improvements, since the latter is a slow and uncertain process at best. Therefore, managers have limited incentive to use PE results.

(b) Related to this is the **role which PE plays** in the societal power system. Alford, in a recent book titled **Health Care Politics: Ideological and Interest Group Barriers to Reform,**[10] characterized the most important structural interests in the health field as professional monopolists, corporate rationalizers, and equal health advocates. The strongest are the professional monopolists, who are the care providers and the industries that profit by supporting providers of care. The powers and privileges of this group are challenged by the corporate rationalizers, who try to make health care more efficient and rational, usually by developing laws, regulations, and standards for services to meet. The struggle between these groups leads to crises in which commissions are appointed to study the problem. Such an action temporarily resolves the crisis. Commission reports, when completed, are forgotten, leaving the health system much as it was previously. Alford documented this in the findings of the major investigative commissions on New York hospitals from 1950 to 1970. The problems reported by various commissions were quite similar. Alford concluded that the commissions played an important role, not because they lead to significant policy innovations, but because they convinced the public that tangible action was

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taken. Similarly, Carter argues that evaluation studies play a conservative function due to clients' resistance to negative findings.[11] The Minnesota Center for Social Research found that evaluation studies at the federal level are not used for grand decisions, but aid to reduce decision-makers' uncertainty by clarifying, reinforcing, or reorienting.[12]

Volkman and I found that changes reported by centers from their own program evaluation tended to be program-expanding much more often than either program-contracting or simply program-modifying.[13] Thus, both the act of evaluating a program and the results tend to be used by vested interests to support their activities.

Next, let us consider the three problems in mental health services which I feel are impelling evaluations. (c) **Costs** are unlikely to be lowered unless the results of PE are heeded much more than seems customary and are used for program curtailment as well as program expansion. Managers charged with providing services to a constituency are unlikely to want to risk a cut in these services without convincing evidence. Such evidence must include both costs and effectiveness. Since cost-effectiveness studies are among the hardest to do well, compelling evidence is unlikely.

(d) **The problem of non-responsive struc-**

(Continued on next page)

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tural conditions in the health field seems unlikely to be solved by program evaluation as long as it is under the management of the care providers. Primack and von Hippel, in a recent book titled **Advice and Dissent: Scientists in the Political Arena,** describe the science advisory system in the federal government as relatively ineffectual in informing the democratic decision-making process. In several technological issues they found "much of the most important technical advice had been ignored — or worse, publicly misrepresented — by government officials. The final outcome of these controversies was in each case much more influenced by the publicly available information and the public activities of scientists than by the confidential advice given the government officials."[14] (e) The problem of an **ineffective treatment technology** calls for improving the technology through basic research on the causes and cures of mental and emotional problems, more than evaluations of how effectively the existing technology is being applied in programs.*

These problems severely limit how much program evaluation can solve the existing major problems in mental health care. It seems more likely that program evaluation will (a) be judged ineffective or (b) be used to support the current system by serving as evidence that managers are concerned about problems (whether or not changes ever result) or by selective reporting of results in order to promote programs.

A system which is imposed by outside authorities has vulnerability to sabotage. Such an externally imposed system might be called Legally Impelled Evaluation System or acronymically LIES. Some products of such a system are: high **formal** compliance, increased reporting of the types of data which are reinforced (and suspected gap between reported data and actual events), resentment toward the government, and less inclination by centers to identify with and use results voluntarily.

FIVE SOLUTIONS

In view of this pessimistic analysis, what can program evaluators do to make their trade really relevant to the serious problems in mental health care? I suggest five things:

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*It is relevant to observe that the crisis for program evaluation differs from the crisis for mental health research which Doctor Bertram Brown presented to the American Psychiatric Association in May, 1976,[15] namely a crisis of radically decreased funds.

Between 1969 and 1975 funds for the research programs of the National Institute of Health (NIH) increased by more than 34 per cent in terms of actual buying power; at the same time, comparable support for mental health research decreased by nearly 31 per cent.

A comparison of NIMH with only those institutes of NIH that also suffered decreases demonstrates how seriously the NIMH position has eroded. Taking inflation into account, four of the ten institutes of NIH experienced reductions in grant support ranging from 8 per cent for the National Institute of Allergy and Infectious Diseases to 22 per cent for the National Institute of Neurological and Communicative Diseases and Stroke (NINCDS) since 1969. None of these approached the 31 per cent reduction of NIMH research funds. As a side observation, Brown noted that the two brain-related Institutes (NINCDS and NIMH) are the two hardest hit.

The Institute's 1976 budget allocates $62 million dollars for research grants — $18.7 million less than in 1967, or a reduction of more than 23 per cent. Employing the constant dollar figure, that cut translates into a 53 per cent decrease in buying power.

The view ahead is even more ominous. The 1977 budget allocation would be a 56 per cent reduction.

These data tell a devastating story: Over the past decade, more than half of the NIMH research grant support capability has been erased. The difficulties in research funding are likely to be exacerbated if the PE form of research is seen to be ineffective.

1) We should counter the tendency to oversell program evaluation. We must make clear the limits in what can be expected and the conditions required even to achieve these benefits. Humility prevents humiliation. 2) To get managers to use findings, program evaluation studies must be designed in collaboration with managers. Davis's A VICTORY model[16] suggests ways to relate findings to program conditions to produce change. Program evaluators should not be isolationists, doing independent studies and expecting the salience of the results to convince managers. 3) External groups should be involved in collaborative roles, as far as possible, to give support to the use of evaluation results. P.L. 94-63 mandates that citizens are to review data. If this review is done properly, citizen support for using evaluation results may be generated. Tufts University has produced a manual to guide citizens in doing evaluation.[17] Citizen interest in use of evaluation results is persuasive to managers and provides a hearing for evaluation data. Citizens can be an echo chamber for the voice of the evaluator — or the evaluator may provide the words and rationale for the will of the people. 4) External institutional supports for frankness in program evaluation reporting are needed to protect conscientious evaluators. Ethical standards of reporting need to be established. The Joint Commission for the Accreditation of Hospitals is developing standards for centers, including a section on research and evaluation. "Whistle-blowers" have pointed out the lack of personal protection for those who speak their conscience.[18] Ways to protect evaluation messengers who have bad program news to announce are needed. Perhaps a Messenger Protection League should be set up by professional bodies. 5) Positive incentives for program use of information should be developed. Quality assurance provisions link reimbursements to the adoption of a **process** of peer review. The linkage is not to use of the results of peer review. The same is true for the requirements for PE activities. If reinforcement could be given for making program improvements based on better knowledge, problem-solving administration would be enhanced. This can be done somewhat by giving

(Continued on next page)

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publicity to cases of "fulfilled" program evaluation. NIMH can help this process by publishing casebooks of model evaluations. Steps in this direction have been taken for use of demographic data,[19] the Region II manual for program evaluation cases,[20] and the American Institute for Research's source book.[21]

CONCLUSIONS

The Health care system is sick. A self-interest based institutional structure with a high concentration of power in care providers has created pathological conditions, at least what appears to be a cancerous growth in costs. PE is an expert with uncertain credentials brought in to find and administer a cure. We aren't sure what medicine should be given, but it's clear that the patient won't like its taste. Unless the patient takes the prescribed medicine regularly, the prescribed PE is unlikely to be helpful. We need technological and collective efforts to make PE more potent and more palatable.

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Schering has released a new oral agent, called Proglycem, for treatment of certain forms of organic hypoglycemia. It acts by inhibiting release of insulin from the pancreas, with benefits within an hour and lasting up to eight hours. Proglycem has no effect on blood pressure.

* * *

Upjohn announces an updated package insert for Motrin®, the nonsteroidal, anti-arthritis agent, to reflect clinical experience in the treatment of an estimated five million arthritis patients. The sections on clinical pharmacology, indications, warnings, adverse reactions, and overdosages are modified.

* * *

Holo Industries are introducing a new lift-transporter which permits paraplegics, invalids, and other handicapped individuals to be lifted by an electric lift from their bed to wheelchair and vice versa. It is motorized for both vertical and horizontal movement and has a control panel which the patient may operate.

* * *

The Medtronic Learning Center has a new catalog which lists the firm's array of available educational materials on cardiac pacing. These include books, brochures, videotapes, audiotapes, films, and slides, many of which are available without charge.

Norcliff Thayer, Inc. has an educational device to aid in combating the head lice and scabies problem in school children. Both diseases are increasing. A sound filmstrip educates children about lice — how to avoid, how to diagnose, and how to get rid of. Comes with records or cassettes for $6.00.

* * *

Baka has three new patient aids designed to eliminate the use of adhesive tape for securing catheters and naso-gastric tubes. There are three types of holders — each one is available in "one size fits all adult" or "one size fits all children."

* * *

Danal Laboratories announces a new line of ostomy appliances which feature a new plastic, Crixiline®, which is said to have advantages over both karaya, commonly used in rings, and pectin, commonly used for adhesive squares. The new ostomy line will include appliances for small bowel, colon, or urinary tract ostomies.

* * *

The Ames Company, Elkhart, has a unique test kit which may be used in the doctor's office to screen for gonorrhea by culture method. The kit does not require refrigeration and has a shelf life of 18 months. Each kit provides materials for 10 tests.

* * *

Organon is introducing HEXADROL® (dexamethasone sodium phosphate USP) in sterile disposable syringes. Each syringe will contain dosage equal to 4.0 mg. Indications include all those usual for such a steroid, but especially indicated are those indications involving acute allergic states which demand prompt therapy.

* * *

Burch Manufacturing Company announces a new, lightweight, collapsible immersion tank designed to meet the critical need for immediate treatment in cases of malignant hyperpyrexia. Weighs only 10 pounds, can be set up in eight seconds by one person, fits a standard stretcher cart. It is easily cleaned and folds up for compact storage.

(Continued on next page)

Endo Laboratories announces a new indication for Symmetrel® (amantadine hydrochloride). It is now indicated in the treatment of drug-induced extrapyramidal reactions. Symmetrel has been approved previously for Parkinson's disease and syndrome and for prophylaxis in A2 (Asian) influenza.

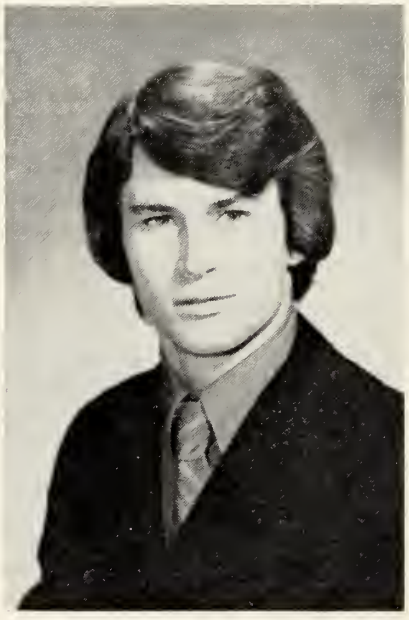
News of what is new in the medical supply industry is composed of abstracts from news releases by manufacturers — of pharmaceuticals, clinical laboratory supplies, instruments, and surgical appliances — and book publishers. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by **The Rhode Island Medical Journal** or the Rhode Island Medical Society.

Reprinted courtesy of the **Journal of the Indiana State Medical Association.**

⚓ ⚓ ⚓

Woman's Auxiliary Scholarship Award

The Woman's Auxiliary to the Rhode Island Medical Society recently presented a scholarship to Frank L. Hanley, who resides at 98 Opper Street in Providence. He earned a B.A. degree in psychology from Brown University in 1974 and is currently a third year medical student at Tufts Medical School in Boston. He spent last summer working in the Department of Anesthesiology at Rhode Island Hospital.



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STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

(Act of August 12, 1970: Section 3685, Title 39, United States Code)

1. Date of filing October 1, 1976.
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   39 U. S. C. 3626 provides in pertinent part: "No person who would have been entitled to mail matter under former section 4359 of this title shall mail such matter at the rates provided under this subsection unless he files annually with the Postal Service a written request for permission to mail matter at such rates."
   In accordance with the provisions of this statute, I hereby request permission to mail the publication named in item 1 at the reduced postage rates presently authorized by 39 U. S. C. 3626.
   Seebert J. Goldowsky, M.D.
10. For completion by nonprofit organizations authorized to mail at special rates (*Section* 132.122, *Postal Manual*)
    The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes have not changed during preceding 12 months
11. Extent and nature of circulation

	Average Copies each issue during preceding 12 Months	Actual No. of Copies of single issue Published nearest to filing date
A. Total no. of copies printed (*Net Press Run*)	1675	1675
B. Paid Circulation		
1. Sales through dealers and car-riers, street vendors and counter sales	—	—
2. Mail subscriptions	1585	1585
C. Total Paid Circulation	1585	1585
D. Free distribution by mail, carrier or other means		
1. Samples, complimentary, and other free copies	35	42
2. Copies distributed to news agents, but not sold	—	—
E. Total Distribution (*Sum of C and D*)	1620	1630
F. Office Use, Left-over, Unaccounted, Spoiled After Printing	55	45
G. Total, *Sum of E and F—Should equal net press run shown in A*)	1675	1675

I certify that the statements made by me above are correct and complete.

Seebert J. Goldowsky, M.D.

Rhode Island Medical Journal

December, 1976 Vol. 59, No. 12

Holiday Greetings

Both often

Predominant psychoneurotic anxiety

Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures m require increased dosage of standard ar convulsant medication; abrupt withdraw may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ir gestion of alcohol and other CNS depres sants. Withdrawal symptoms (similar to those with barbiturates and alcohol) hav occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Kee addiction-prone individuals under careft

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

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(diazepam) Ⓘⓥ

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in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Rhode Island Medical Journal

DECEMBER, 1976 VOLUME 59, No. 12

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DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES
Providence, Rhode Island 02912
863-3231

CONTINUING MEDICAL EDUCATION CALENDAR

JANUARY

4 BOARD REVIEW COURSE IN INTERNAL MEDICINE. Weekly lectures Tuesday evenings through June 7, 1977. Topics will include: gastroenterology, liver disease, immunology, renal, endocrine, cardiology, oncology, pulmonary diseases, infectious diseases, neurology, diabetes, office gynecology, rheumatology, hematology, dermatology. Tuesdays, 7:00 P.M.-9:00 P.M. George Auditorium, Rhode Island Hospital. Registration required. For information, contact the Office of Continuing Medical Education, Brown University, Box G, Providence, RI 02912, or 863-3337.

5 Basic Science Lecture Series, "Fat Embolism," Karl E. Karlson, M.D., Surgeon-in-Charge, Division of Cardio-Thoracic Surgery, Rhode Island Hospital. 1:00 P.M., 7th Floor Conference Room, APC, Rhode Island Hospital.

12 Basic Science Lecture Series, "Orthopaedic Neurology," Michael Faella, M.D., Department of Neurology, Kent County Hospital. For place, see January 5.

12 MEDICAL RESEARCH: ISSUES OF INFORMED CONSENT. Speakers will include: Donald Chalkley, Ph.D., Director, Office of Protection from Research Risks, N.I.H.; Robert Levine, M.D., Professor of Medicine, Yale University School of Medicine; Kenneth Vaux, Ph.D., Director of Programs in Medical Humanities and Ethics, Texas Medical Center; Alexander Capron, Ph.D., Professor, University of Pennsylvania Law School. The program wi'l also include case presentations and a panel response with local participants. 8:30 A.M.-3:45 P.M., The Cranston Hilton Inn, Cranston. Registration required. For information contact Rev. Duane Parker, Rm. 146 Aldrich Bldg., Rhode Island Hospital.

14 "Diagnosis of a Child with Abdominal Pain," M. Judah Folkman, M.D., Surgeon-in-Chief, Children's Hospital Medical Center, and Julia Dyckman Andrus Professor of Pediatric Surgery, Harvard Medical School. 10:30 A.M.-12:00 Noon, Kay Auditorium, Roger Williams General Hospital.

19 Basic Science Lecture Series, "Management of Chronic Arthropathies," Joseph P. Lombardozzi, Jr., M.D., Medical Staff, Rhode Island Hospital. See January 5 listing for time and place.

26 Basic Science Lecture Series, "Vascular Problems of the Lower Extremities," Warren Francis, M.D., Surgical Staff, Rhode Island Hospital. For time and place, see January 5 listing.

FEBRUARY

9 RECENT ADVANCES IN HEMATOLOGY. Topics and speakers will include: "Idiopathic Thrombocytopenic Purpura," Mario G. Baldini, M.D., Professor of Medical Science, Brown University; "On the Lysis of Cells by Complement — The Membrane Attack Mechanism," Manfred Mayer, Ph.D., Professor of Microbiology, Johns Hopkins University School of Medicine; "Immune Hemolytic Anema," John P. Leddy, M.D., Professor of Medicine and Microbiology, University of Rochester School of Medicine. Also, "Transformation Sensitization of Blood Cells," Herbert C. Lichtman, M.D., Professor of Medical Science; "Immune Neutropenia," James P. Crowley, M.D., Assistant Professor of Medicine, Brown University; and "Circulating Anticoagulants to Factor VIII," Maurice M. Albala, M.D., Director, Division of Clinical Hematology, Rhode Island Hospital. 1:00 P.M. to 5:00 P.M., George Auditorium, Rhode Island Hospital. A registration fee will be charged. For information, contact: Office of Continuing Medical Education, Brown University, Box G, Providence, RI 02912, or 863-3337.

11 "Rh Revisited — The History and Eradication of a Disease" (combined Pediatric Teaching Rounds), Philip Lanzkowsky, M.D., F.R.C.P., D.C.H., Professor of Pediatrics, School of Medicine of the Health Sciences Hospital, State University of New York at Stony Brook. Kay Auditorium, Roger Williams Hospital, 10:30 A.M.

16 Basic Science Lecture Series, "Joint Motion and Lubrication," Rosario Tomaselli, M.D., Orthopedic Staff, Rhode Island Hospital, 1:00 P.M., 7th floor Conference Room, A.P.C., Rhode Island Hospital.

23. Basic Science Lecture Series, "Electromyography," Henri L. Pache, M.D., Department of Rehabilitation Medicine, Rhode Island Hospital, 1:00 P.M., 7th Floor Conference Room, APC, Rhode Island Hospital.

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COMMENTS ON THE NEW HEALTH MANPOWER BILL

On October 12, 1976 President Ford signed into law the Health Professions Educational Assistance Act of 1976 (Public Law 94-484). There are many provisions in this Act which impinge upon medical practice and medical education in Rhode Island including: (1) the establishment of a National Health Service Corps; (2) a stipulation that the federal government establish criteria for determining allowable increases in tuition and other educational costs by the health professions colleges of the United States; (3) a requirement that medical residency training programs in primary care fields provide a reasonable number of shared-schedule positions; (4) a new program of federally insured loans for students in the health professions colleges, commencing October 1, 1977; (5) continued capitation support for those medical students attending medical schools which are in compliance with the new law; and (6) a declaration that physicians are no longer to be considered a shortage profession and therefore noncitizen foreign medical graduates are no longer to receive preferential status in gaining admission to the United States under the Immigration and Nationality Act.

There is one further provision in the new bill, however, which I believe threatens a fundamental principle of higher education in private institutions, namely, the right of such institutions to be responsible for their own admissions policies. The new bill will now require that American medical schools set aside for US foreign medical students a certain number of advanced-standing class positions proportioned and assigned to each school by the Secretary of Health, Education and Welfare. (President Ford, while signing the bill, nevertheless stated in writing his reservations regarding this provision, noting that ". . . it undermines our medical schools' admission policies by imposing Federal law to override an individual school's admission criteria.") At the present time, the law is ambiguous as to whether the 1977-78 or 1978-79 school year shall be the first year when this provision is to be implemented. In any case, to be eligible for one of these positions a foreign medical student must, first, be a US citizen; second, must have been duly enrolled in a foreign medical school before the enactment of this Act; and third, must have completed at least two years in an accredited foreign medical school and have passed Part I of the National Board of Medical Examiners Test prior to August 15, 1959.

It is assumed that the basis for this particular provision is to facilitate the return of American students receiving their medical education abroad and to provide for them a supervised clinical experience using local educational resources. Is there a demonstrated need for such federal intervention in the admissions process of the Brown medical school?

For almost three years Brown University has been voluntarily providing such a channel for Rhode Islanders studying medicine abroad. Since early 1974 the Program in Medicine at Brown has maintained a program of supervised clinical education. Participants are provided a year of clerkship experience in medicine, surgery, pediatrics, obstetrics, neonatology, and gynecology in hospitals affiliated with Brown University. This program is restricted to men and women who are residents of the state of Rhode Island. Upon satisfactory completion of these clerkships the special student will receive credit (equal to one year of studies) which is accepted by his parent medical school.

(Continued on Next Page)

Since 1974 fifteen Rhode Islanders have enrolled in or have completed this special educational program. Of these 15 students, six had received their prior undergraduate education at Providence College, three at the University of Rhode Island and the remainder at such institutions as Vermont, Bridgeport, Hartwick, Brown, and Beloit. Nine of these students have received, or will receive their medical degree from the University of Bologna, five from the University of Rome, and one from the University of Bordeaux. Two further students have already been accepted for the Supervised Clinical Education Program commencing in August, 1977; these latter two students are presently at the University of Lisbond and the Royal College of Surgeons in Ireland.

During this past year Brown has also instituted a Modified Fifth Pathway Program for Rhode Island residents. Two students have applied, and both were accepted. However, only one has chosen to begin the program with Brown.

Brown has indeed made its educational resources available to Rhode Islanders studying medicine abroad. In the past three years our admissions committee has offered places to 22 students and 16 have accepted our offer to obtain the clinical segment of their education in the Brown orbit of hospitals (Rhode Island Hospital, Roger Williams General Hospital, Veterans Administration Hospital, The Miriam Hospital, Memorial Hospital, Women & Infants Hospital). These special students have received a clinical education which is indistinguishable from that which we provide our own junior and senior medical students, and both groups of students are integrated in such a manner as to provide for each equivalent standards of education and faculty expectation.

The Brown program of supervised clinical education for foreign medical students has conferred an additional benefit upon our professional community. It has permitted our affiliated hospital and these students to come to know each other. Five of the 16 special students have already received their MD degrees and four are currently interning in this community (one each at Roger Williams General, Memorial, Rhode Island, and Miriam Hospitals).

The controversial aspect of Public Law 94-484 may be modified or repealed during the next congressional session. Brown plans to continue its Program of Supervised Clinical Education for qualified Rhode Islanders.

Stanley M. Aronson, M.D.
Dean of Medicine
Brown University

THE ANNUAL

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President's Page

SOCIETY TO CONSIDER MEMBERSHIP BYLAWS CHANGES

By Herbert F. Hager, M.D.

Medical students are delivered by obstetricians whom they cannot remember, immunized by pediatricians who to them mean needles and lollipops, cared for in college by school physicians they rarely meet, and then are enrolled in medical school to learn to be physicians. There they are taught by a conglomeration of Doctors of Philosophy, academicians, and sub-specialists, who for the most part are interested in the specialty societies, or are not members of organized medicine. It is understandable why many of the students grow up with a bias against the American Medical Association and the component state societies. The federal government and organized labor in their desire to divide and conquer, and to dispel the aura that traditionally has surrounded a "doctor of medicine," have used the medical organizations as whipping boys. They hope thus to shift to the medical profession the blame for their costly failures in legislative and regulatory health care planning.

In an effort to involve the future physicians of America in the planning and regulatory processes of health care delivery, the AMA and many state societies have changed their bylaws to permit membership of medical students (Student Physicians), interns, residents, and fellows (Graduate Physicians) enrolled in approved medical schools and graduate training programs. They may become active members either through local components or directly at the state or national level.

The Rhode Island Medical Society House of Delegates on October 6, 1976, after committee study and on the recommendation of the Council, voted to approve changes in the Society's bylaws. These changes will be on the agenda for the RIMS Annual Meeting which will be held May 11, 1977 at the Cranston Hilton Inn.

The bylaw changes would provide for four classes of membership: (a) Members, (b) Graduate Physician Members, (c) Student Physician Members, and (d) Honorary Members.

The student members would not have the right to vote at meetings of the Society, but would be entitled to all other rights and privileges of the Society. The student members and the graduate physician members would be permitted to join the state Society directly by an alternate but not exclusive route to membership. They would thus not be subjected to the additional dues of a component organization. The two groups would

(Continued on Next Page)

be permitted to caucus, and each might choose one delegate to the RIMS House of Delegates, who would have the right to vote.

Graduate Physician members, Student Physician members, and Honorary members would be exempt from any special assessments. Their dues would be determined annually, and it is recommended that they be comparable to dues for simiar groups in the AMA and thus not a financial burden to anyone.

Housestaff and medical student membership in the AMA continues to grow. In 1976 nearly 11,000 interns and residents joined the Association. This represents an increase of 20 per cent over 1975, which was a record year, as were 1973 and 1974. This year also marks the fourth consecutive year of growth for medical student membership in the AMA. Over 10,000 medical students joined in 1976, an increase of 20 per cent over 1975.

The state societies and the AMA are the organizations that represent all physicians. It is my hope that the Society's bylaws can be further revised to permit membership by the unlicensed physicians of the Rhode Island medical community. These would include physicians in the armed forces, Veterans Administration, and other employed civilian physicians in administrative and teaching positions.

If the proposed bylaw changes are adopted, it is hoped that all members of the Society will encourage these prospective members to join with us in promoting the best possible health care in Rhode Island.

Plan Now To Celebrate

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of the

Providence Medical Association

Wednesday, January 19, 1977

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*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

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Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

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Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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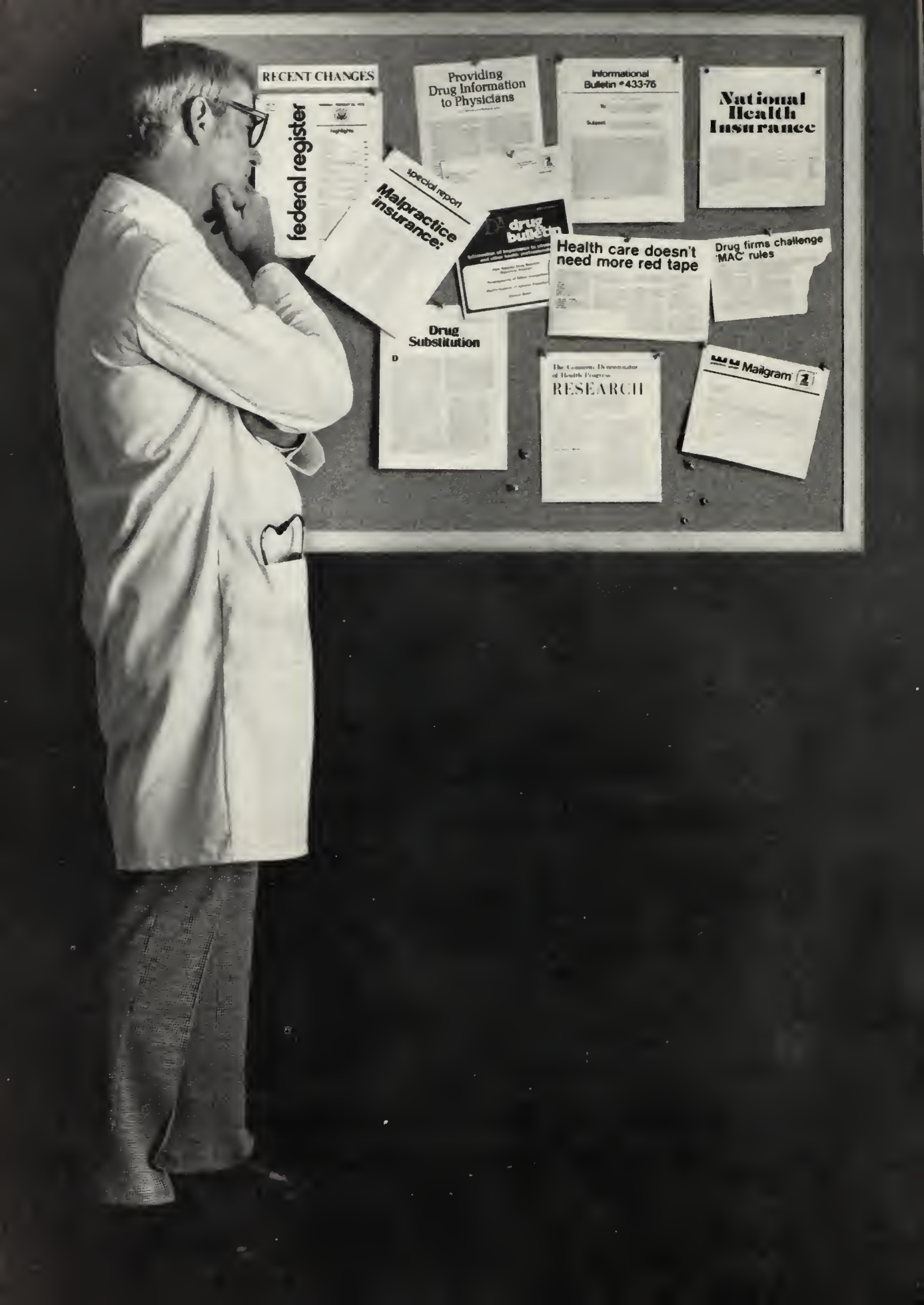
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Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

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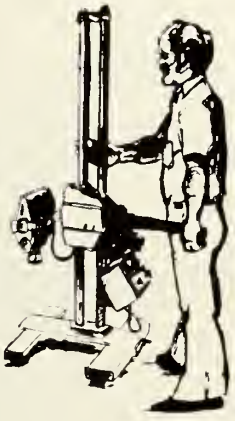

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The Early Practice Of Allergy In Rhode Island

Pioneers In The Specialty Established The First Clinic More Than Fifty Years Ago

By Stanley S. Freedman, M.D.

The earliest known attempt to bring the practice of allergy into the State of Rhode Island was made by Doctor Maurice Adelman, a distinguished Providence pediatrician, who took it upon himself to establish a clinic for asthmatic children at Rhode Island Hospital in 1924. It was a time when "allergy" was in its infancy. It had not for many years been known that the human organism would not always tolerate an injection of a "foreign protein" into its flesh or blood-stream (e.g. horse serum containing diphtheria antitoxin) and that as a consequence of such injection death might ensue. It was also a time when medicine reached out for new horizons and new scientific conquests.

Pediatricians and internists in New York, in Boston, in Philadelphia, in Chicago, and on the West Coast became cognizant of "allergy" and its potential as a new medical discipline begging for recognition and development. Men of vision and wisdom in many parts of the country realized its significance as a clinical entity worthy of exploration and study. These men, who were referred to as "Allergy Pioneers," studied, observed, gathered statistics, and published their findings at an ever-increasing tempo, thus laying the foundation of a new medical specialty — Allergy — possessing vast opportunities to render a needed service to victims of allergic disease.

STANLEY S. FREEDMAN, M.D., *Consultant in Pediatric Allergy, Rhode Island Hospital.*

In addition, these pioneers organized Allergy Clinics in New York, in Brooklyn, in Chicago, in Boston, in San Francisco, and elsewhere, usually in prestigious hospitals or medical schools. Many of these clinics became the future institutions of learning and experimentations in allergy and immunology, from which emanated our present-day knowledge.

The State of Rhode Island and the Rhode Island Hospital had every intention of joining the movement. Following the initial move by Doctor Adelman, a steady procession of pediatricians took turns willingly donating their time and effort to the clinic. The result was the establishment of an effective Pediatric Allergy Clinic, which has functioned without interruption to the present time.

Doctors William P. Buffum, Francis H. Chafee, Stanley S. Freedman, and several other physicians relentlessly pursued the knowledge which was accumulating rapidly in many places. They attended regional and national seminars with avidity. They studied the writings of Doctor Robert A. Cooke of Roosevelt Hospital fame in New York. They attended the monthly meetings of S.W.I. sneeze, wheeze, and itch) Club in Boston. There they were privileged to listen to and participate in discussions by the then famous "Allergy Pioneers," Doctors Francis M. Rackeman, Lewis Webb Hill, Walter Burrage, and many others. It was hard work, but the

(Continued on Next Page)

rewards were fascinating and momentous to their medical careers.

Following the initial move by Doctor Adelman, Doctor Reuben C. Bates, another distinguished Providence pediatrician, joined the Clinic in 1927 and served with great devotion until a short time before his death in 1967.

In 1933 came Doctor William P. Buffum. His dynamic personality endowed the Clinic with prestige and respect, and eventually with the triumph of national recognition. Under his prestigious leadership, the Clinic was approved for postgraduate training in Pediatric Allergy. The first Fellow in training was Doctor William Sellars of Dallas, Texas (1956).

In 1938-1939 the Clinic was honored by a personal visit of the late Doctor Francis M. Rackemann. During the same period the late Doctor Lewis Webb Hill of Boston delivered several lectures on Pediatric Allergy. He was impressed by the convalescent facility — the Crawford Allen Unit of the Pediatric Department which was used to provide long-term treatment and rehabilitation services to those of our asthmatic children whose disease was most severe and chronic.

Doctor Stanley S. Freedman, also a Providence pediatrician, joined the Clinic in 1934 and continued in its activities until his retirement in 1975. By that time the Clinic had been well organized and staffed by several talented allergists and pediatricians. Lectures and demonstrations were presented at regular intervals in order to bring this new knowledge and experience to the local medical community. A number of original studies were conducted by staff members, most of which were published in national allergy journals. One study (by Doctor Buffum) demonstrated the existence and identification of asthma in the first year of life. Another clinical study (by Doctor Freedman) with the cooperation of the pediatric staff of Rhode Island Hospital revealed that cow's milk was **not** a major factor in the etiology of infantile atopic eczema.

During World War II, when the younger men left for war duty, it was Doctor Buffum who, all alone and in spite of poor health, kept the Clinic going.

The Department of Medicine of Rhode Island Hospital in 1938 was chaired by the late Doctor Clinton Westcott, who would not allow the tiny, though vital Department of Pediatrics to outdo the august Department of Medicine. He thus ordained that an Adult Allergy Clinic be established. He looked about for talent, and discovered a promising young member of his staff, Francis Chafee. However, Doctor Chafee informed his boss with shyness and candor that he knew very little about allergy. Whereupon, Doctor Westcott summarily directed him to learn about allergy and all of its ramifications forthwith, so that the clinic could open promptly.

Thus was born the Adult Allergy Clinic of Rhode Island Hospital. It grew steadily in stature and popularity. Like its counterpart in Pediatric Allergy it filled an important gap. It continues to serve the Rhode Island community with distinction and honor.

The events and activities herein described finally crystalized and culminated in the creation of The Rhode Island Society of Allergy. Doctor Francis H. Chafee was its first President and Historian. Charter members were Drs. Chafee, Freedman, Boyd, Settipane, Klein, and Missaghian.

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A Review And Comparison Of The Psychoanalytic And Sociological Conceptualizations Of The Alcoholic Marriage

Research Which Blends The Sociological And Psychodynamic Factors In A Single Conceptual Structure Is Long Overdue

By Thomas J. Paolino, Jr., M.D.

The estimated nine million alcoholics in the United States marry at the same frequency as the general population. Thus, the medical profession is continuously exposed to the alcoholic marriage.* Many clinicians display profound sophistication in the psychoanalytic or sociological perspective but do not possess a thorough understanding of **both** conceptualizations of the alcoholic marriage. If scientific truth about alcoholic marriages is to be more than a matter of convention, convenience, or mutual consent among observers, medical practitioners must possess a thorough knowledge of these two rival and contradictionary conceptualizations. This paper reviews and compares these two perspectives with an author bias towards the sociological approach to the alcoholic marriage.

THE PSYCHOANALYTIC PERSPECTIVE

Psychoanalytically oriented theoreticians were the first to conceptualize the alcoholic marriage. This was done by formulating the Disturbed Personality Hypothesis (DPH)[1]. Proponents of the DPH are usually phychiatrists or social workers reporting their impressionistic accounts of clinic, social work agency, and private practice contact. These authors have flooded the literature with varicut degrees of descriptions of the spouse as a fragile, outwardly dominant but deeply dependent, anxious, sexually inadequate, and abnormally angry woman with pathogenic childhood experiences[2-6]. For many years, these publications had a widespread influence on the thought and conduct of the people treating alcoholics and their spouses.

The psychoanalytically oriented alcohologists, have, like the proponents of the sociological theory, attempted to understand what motivates the alcoholic marriage. Although there is no place in the literature where it is explicitly stated, these psychoanalytically oriented contributors to the alcoholic marriage literature have based their writings on four central and mutually related operational concepts: A. Fixation at Psychosexual Stages; B. Psychic Determinism; C. The Unconscious, and D. Defense Mechanisms.

A. **Fixation at Psychosexual Stages.** Psychoanalytic theory presents a schema in

(Continued on Next Page)

*An alcoholic marriage is defined as a marriage between an alcoholic and nonalcoohlic.

THOMAS J. PAOLINO, JR., M.D., *Chief, Upper East Unit, In Patient Division, Butler Hospital, and Assistant Professor of Psychiatry, Department of Psychiatry and Human Behavior, Brown University.*

which the mind is energized and impelled to action by instinctual forces or "drives." Drives are relentless stimuli of the mind that engender sexual and aggressive action. The drives and the psychic or drive energy that impel them are conceptualized as purely intrapsychic and biologic phenomena that affect the human being at all times but are especially crucial during developmental years.

During the long period of infancy, childhood, and adolescence an individual passes through critical periods of psychosexual development. During normal psychosexual development intrapsychic conflicts must be resolved in order for there to be a normal flow of psychic energy from object to object or from one means of gratification to another. If the intrapsychic conflicts are not resolved, a "fixation" may occur at the specific stage or mode of development; for example, a female may remain "fixated" to her father and be unable to transfer her psychic energy in a normal fashion to another adult male. Although childhood and adolescence are the most important periods, psychoanalytic theory proposes that psychic energy is self-directed throughout life.[7]

The DPH theorists propose that the nonalcoholic's marriage to an alcoholic or potential alcoholic is based partly on the nonalcoholic's intrapersonal psychopathology which antedated marriage, since it has occurred as a result of "fixation" during psychosexual development. A logical conclusion of this reasoning is that normal people do not marry alcoholics and that the spouse manifests a characterological pattern of identity and behavior. In other words, the spouse develops a specific character structure before marriage which remains relatively unchanged throughout the rest of her life. * *

B. **Psychic Determinism.** The principle of strict determinism (or psychic causality) is that a mental event is never a random phenomenon. That is, nothing happens by chance, and every psychic event is determined by a preceding chain of mental events. As with the physical world, the psychical world is incapable of random causation and discontinuity. Therefore, every psychic symptom, whatever its nature, is the result of other mental or physical processes, all operating within the totality of natural law.

The concept of determinism is a synthesis and abstraction of a multitude of observations and is in direct opposition to the doctrine of "free will." Determinism is fundamental to many theories of human behavior including sociological theories, as would be logically expected, since "scientific investigation would indeed be pointless if the order it strove to ascertain did not exist" (p. 365).[8]

What is relevant at this point of the discussion is the psychoanalytically oriented alcohologist's application of the psychic determinism concept to the alcoholic marriage. Specifically, these authors have applied psychic determinism to elaborate on the basic theme that just as there is a psychic reason for the alcoholic to misuse alcohol, so is there a mental process that leads the spouse to marry an alcoholic, or to be unable to leave him, or to contribute to his alcohol, or any combination of these.

C. **The Unconscious.** The "unconscious" is the third relevant fundamental psychoanalytic principle. The unconscious has been discussed in the literature for centuries, but the necessity and validity of the concept unconscious has probably never been discussed more brilliantly than in Freud's 38-page essay, "The Unconscious."[9] Psychoanalysts have several applications for the word "unconscious." "Unconscious" can be a strictly descriptive term referring to the part of the mind that is out-of-awareness; or it can have a more functional meaning by referring to a segment of the psychic apparatus with unique intentions and performances. No psychoanalyst suggests that the unconscious is a concrete entity, and all analysts agree with Freud that unconscious processes are "totally inaccessible" to us: no physiological concept or chemical process can give us notion of their nature" (p. 168).[9] For use in this paper, the unconscious can most simply be defined as a short-hand term describing mental processes which determine most, if not all, of what we do, think, or feel, but which cannot be perceived simply by an act of attention.

* * Most of the alcoholic marriage literature focuses on female spouses of alcoholics and so I have chosen to use "she" or "her" rather than "he/she" or "his/her" when referring to the nonalcoholic member of the alcoholic member of the alcoholic marriage.

As with psychic determinants, the existence of the unconscious is the basis of many nonpsychoanalytic theories. In fact, there is scarcely any perspective of human behavior that denies the existence of out-of-awareness psychic events. The concept of the unconscious is theoretical, like the idea of atoms, since it is never directly perceived; however, the unconscious is also a concept of experiential value since it offers a logical interpretation of otherwise incomprehensible observations. Any lack of appreciation of the unconscious could result in a meaningless perspective of human behavior.*** * *

> Who could hope to disentangle the fabric of our inner life with its thousand-fold complexities, if we were willing to pursue its threads only so far as they traverse consciousness? . . . For the mind would often slip through the fingers of psychology, if psychology refused to keep hold on the mind's unconscious states. (Pp. 11, 13).[9]

In the alcoholism literature psychoanalytically-oriented theorists have used the concept unconscious as a way to explain the apparent discontinuities of the alcoholic marriage. For example, the spouse often asserts that being married to an alcoholic is something strongly unacceptable to her whole being and quite unconnected with the rest of her mental life. The principle of the unconscious asserts that psychic connections are present and understandable, but totally unconscious. The spouse's need to be married to an alcoholic is kept out-of-awareness, but nonetheless quite forceful in its effect on marital behavior.

D. **Defense Mechanisms.** Defense mechanisms are unconscious processes of the ego in its struggle to ward off jeopardy. Usually the danger arises when unconscious thoughts, feelings, drives, or wishes previously associated with actual or imagined punishment threaten to erupt into conscious awareness. The uncomfortable subjective experience of anxiety signals the ego that eruption of the unacceptable mental event into consciousness is imminent, and the defense mechanisms engender "symptoms" which are actually compromises of conflicting intrapsychic forces.

The DPH proponents apply the psychoanalytic concept of defense mechanisms to alcoholic marriage by first assuming that being married to an alcoholic is in itself a symptom. The marriage is a manifestation and conglomeration of defense mechanisms. The spouse is constantly struggling to find an acceptable compromise by engendering and maintaining an alcoholic marriage. For both the nonalcoholic and the alcoholic, therefore, the alcoholic marriage serves as a means to prevent unacceptable unconscious mental phenomena from reaching painful awareness.

According to the DPH proponents there are many specific ways that defense mechanisms operate to maintain the alcoholic marriage. I will present from the literature one simplified example of a spouse utilizing **denial** and **rationalization.** First, I should define these terms. **De ial** is a primitive mechanism in which the person avoids becoming conscious of some painful part of reality. **Rationalization** is a more highly developed and mature defense mechanism that is the intellectual distortiton by which the person explains an unacceptable thought, feeling, or action.

Whalen[2], a DPH supporter, proposes that many spouses of alcoholics have an unconscious wish to punish and defeat all men. Whalen calls this type of person "Punitive Polly." The wish to be punitive is quite unacceptable to the spouse, and so she utilizes **denial** of the wish. She supports the **denial** by marrying an alcoholic who will abuse her so that she can **rationalize** whatever awareness she might have of her punitive needs.

The unconscious and the processes of psychic determinism and defense mechanisms are, of course, separated only for purposes of presentation, since in actuality all three are constantly simultaneously operating.

DECOMPENSATION HYPOTHESIS

The **Decompensation Hypothesis** is a logical extension of the Disturbed Personality Hypothesis as an attempt to understand the psychodynamics of the alcoholic marriage. The Decompensation Hypothesis represents a controversial approach that explains the alco-

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***The scientific nature of the unconscious as an object of study is, of course, an issue of great controversy with psychoanalysts and physical operationists representing the two opposite extremes.

holic's excessive drinking as in some way satisfying an unconscious need of the nonalcoholic spouse and thereby functioning to keep the nonalcoholic spouse in psychological equilibrium.

Boggs[10] in summarizing his clinical impressions claimed that the wife:

> . . . knocks the prop from under him at all times, seemingly needing to keep him ineffectual so that she feels relatively strong and has external justifications for hostile impulses. Thus, she keeps the lid on her own inadequacies and conflicts. (p. 552).

The psychoanalyst Futterman[11] gives examples of psychotic and neurotic depressions and phobias developing in wives following the husband's sobriety:

> In many instances the wife of an alcoholic seems to unconsciously encourage the husband's alcoholism to satisfy her own psychological needs . . . she chooses as her foil a dependent, weak male with whom she can consciously contrast herself and upon whom she can project her own weaknesses, thereby denying its existence in herself. When this symbiotic relationship is disturbed by an improvement on the part of the husband, the wife decompensates. (p. 40).

Numerous authors have reported subjective clinical impressions that support Boggs and Futterman[12–14]

MacDonald[15] was the first to attempt a more scientific study of the Decompensation Hypothesis. MacDonald studied 18 women who were committed to state mental hospitals and who were also wives of alcoholics. He found that in 11 of the 18 cases the decompensation was associated with a **decrease** in the husband's drinking.

MacDonald's data are most interesting but must not be taken too seriously, since his study is methodologically unsound. There are no control groups, there is a strong selection factor of state hospital inpatients, and the sample is too small for significant statistical evaluation. MacDonald concluded his paper with the admonition that his results be viewed as only preliminary data. Since unfortunately many subsequent authors did not follow MacDonald's exhortations, his paper is frequently quoted as strong evidence of the validity of the Decompensation Hypothesis.

OPPOSITION TO DECOMPENSATION HYPOTHESIS

Many alcohologists have strongly disagreed with the Decompensation Hypothesis as well as the notion that alcoholic marriages can be adequately understood by unconscious processes or by theories that focus on the psychopathology of the individual marital partner.

Many theorists argue that the cases seen in the therapists office, clinics, and social agencies are not representative of the general alcoholic population. A couple consisting of a recovered alcoholic and a spouse who did **not** decompensate following the alcoholic's recovery are less likely to be seeking therapy and, therefore, less likely to be observed by people who write and teach about alcoholic marriages.

Also, numerous investigators argue that the marital relationship and mental health of the marital pair **improved** following decreased alcohol misuse[16–19].

Haberman[20] administered the Index of Psychophysiological Disturbances to 156 wives of alcoholics. The Index, a reliable and valid instrument, consists of 22 questions associated with psychophysiological disturbance, such as gastrointestinal dysfunction, headaches, depression, memory loss, and weakness. The wives were selected from a large sample because they could clearly contrast by recall and difference between periods of abstinence and periods of heavy drinking. The results indicated that 85 per cent of the wives showed fewer symptoms during the husband's abstinent period.

Several investigators have observed that the nonalcoholic spouse's threat of divorce has been effective in getting the patient into treatment[21, 22]. These findings are obviously inconsistent with the Decompensation Hypothesis.

A SOCIOLOGICAL APPROACH

In opposition to the psychoanalytic model, the sociological perspective to the alcoholic marriage focuses on the function and structure of the family unit. Sociologists concentrate an institutionalized regulations which

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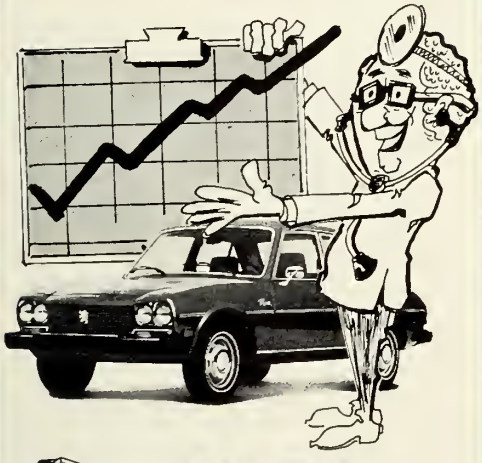

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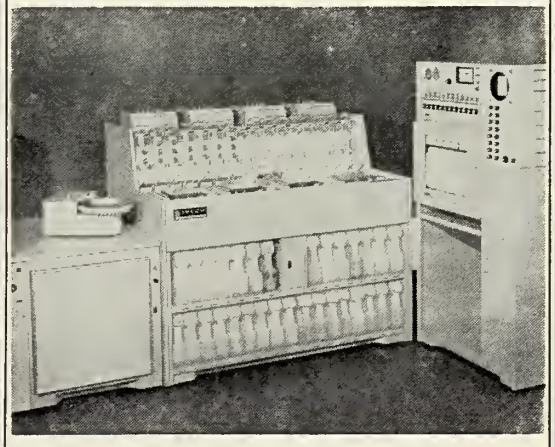

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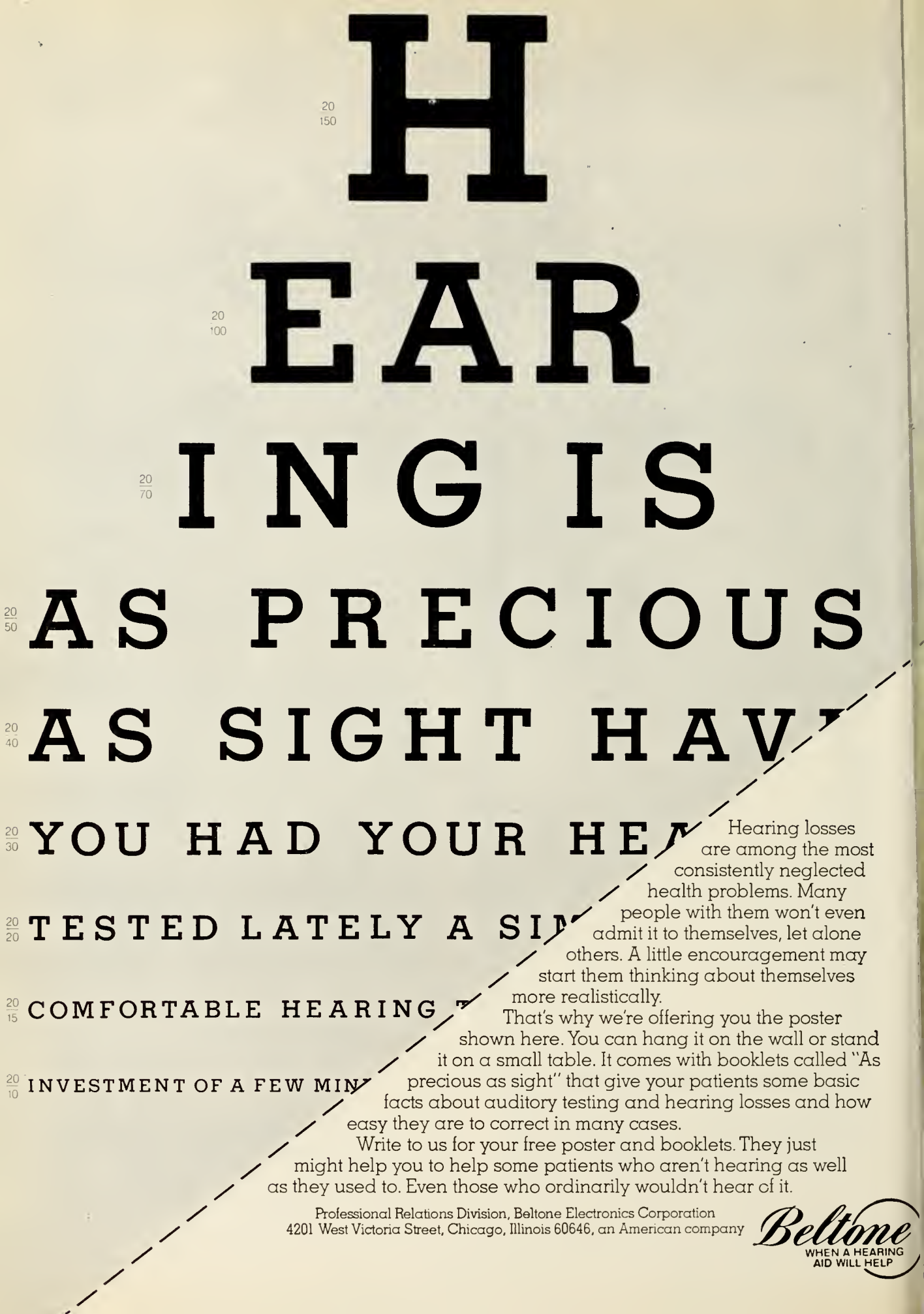
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School Screening For Spinal Deformities In Rhode Island

Program Is Advocated To Prevent Unnecessary Pain And Permanent Deformity

By A. A. Savastano, M.D., and Joseph B. Fitzgerald, M.D.

Realizing the importance of the early diagnosis and treatment of Scoliosis, the senior author and Doctor John B. Thayer established the Scoliosis Clinic in the Department of Orthopedic Surgery of the Rhode Island Hospital in 1959. At first the Clinic was conducted once monthly. The number of patients attending the Clinic grew so rapidly that within six months it was decided to conduct the Clinic twice monthly. Within one year it became necessary to increase the Clinic days to a weekly schedule. The number of patients has continued to grow, so that at the present time the Clinic is held twice weekly. The youngsters who take advantage of the Clinic come from the entire State of Rhode Island, from Southern Massachusetts, and from Northern Connecticut.

Some of the patients came to the Clinic with such grotesque spinal deformities, that the extreme importance of detecting spinal problems as early as possible in children became evident. Accordingly, in 1974 the Department of Orthopedics of the Rhode Island Hospital introduced a program for the early detection of spinal deformities in Rhode Island school children.

Letters were written to the superintendent of schools of each town or city in the state explaining to them the nature of our program and asking for their cooperation. The majority of the superintendents expressed their willingness to cooperate. The superintendents who accepted our idea informed their school nurses, school physicians, physical education teachers, and other interested persons. A meeting was held soon after at the Rhode Island Hospital with attendance crowding the auditorium. The Orthopedic Department of the hospital came to the conclusion that spinal deformities begin to appear in youngsters in the seventh and eighth grades. Consequently, it was decided to examine for spinal deformities as many Rhode Island school children of this age group as possible. Thereafter, letters were written for parental permission, and the program started in 1974.

The program has met with general enthusiasm by those involved. The purpose of

(Continced on Next Page)

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this paper is to discuss our experiences with the program to date.

The Rhode Island Hospital Orthopedic Team made trips to interested schools for the purpose of demonstrating screening techniques on specific students to school nurses, physical education teachers, and school physicians. The simple visual signs of spinal deformity were demonstrated to these groups, who in turn check the students for the various deformities.

THE DEFORMITIES

1. Scoliosis may be defined as a lateral curvature of the spine. It is derived from the Greek word **Skolios** meaning twisted. Hippocrates recognized its existence about 400 B.C.

2. Kyphosis is a normal curve convex posterior in the thoracic region measuring 30-40 degrees. Pathologic kyphosis is a greater than normal thoracic kyphosis or any cervical or lumbar kyphosis.

3. Lordosis is a normal curve convex anterior in the lumber region. Pathologic lordosis is a lumbar lordosis greater than normal or any thoracic lordosis.

4. Scoliosis may be divided into two broad categories: non-structural and structural scoliosis.

Non-structural scoliosis is secondary to another pathologic condition and is completely reversible when the other pathologic condition is corrected. Structural scoliosis involves anatomic changes in the spine including vertebral rotation. Structural scoliosis can be further subdivided into several groups, the most common of which are: idiopathic, congenital, infantile, and paralytic neuromuscular scoliosis.

The most common variety of structural scoliosis is idiopathic scoliosis, which makes up 60 to 85 per cent of the cases. It appears and progresses mostly during times of rapid growth, i.e., during the first years of life and at puberty.

Infantile scoliosis is not as serious a problem in this country as it is in England; its incidence is low here, because it often corrects spontaneously, and because of its early detection during periodic examination in the first years of life.

Adolescent scoliosis is more of a problem for us because it may progress unrecognized until it reaches a stage where simple methods of treatment are not effective. The reasons for this are twofold:

1. The young adolescent is generally healthy and is not likely to be examined frequently by his or her doctor. Physical examinations required in Rhode Island in Grades 1, 4, 7 and 10 are not always done and when done the spine is not always examined carefully.

2. The young adolescent, especially the young female adolescent, is not frequently seen undressed by her parents or others who might note an early curve.

The treatment of scoliosis and other spinal deformities varies according to the degree of the curve. Mild curves are either observed or treated with exercises. Moderate curves usually require bracing. For severe curves the only alternative may be surgery in the form of spinal fusion followed by a period of cast immobilization.

A significant factor in the treatment of scoliosis is early detection. If detected early, most cases of idiopathic scoliosis can be treated with exercises or braces, thus preventing the need for surgery.

SCREENING

The idea of screening in Rhode Island originated in 1974, as a result of two observations:

1. Analysis of Rhode Island Hospital Scoliosis Clinic population statistics revealed a tenfold increase in patients going to clinic between 1963 and 1973. This indicated a greater physician and public awareness of scoliosis as well as a greater confidence in the methods of treatment offered. In spite of greater awareness of the disease, advanced cases continued to be discovered and referred, cases which could have been better helped if diagnosed earlier.

2. A report from Downey, California in 1973, showed that scoliosis screening in schools for early detection is reasonable.

Our program was designed in order to emphasize primarily early detection of scoliosis, but kyphosis and other diseases were not to be excluded.

The program was initiated and supervised by the senior author and Doctor John B. Thayer, Jr., in the spring of 1974, with the screening being done by two former Rhode

Island Hospital Orthopaedic Residents, Doctor Thomas Bliss and the junior author with the help of the Scoliosis Clinic nurses and some of the school personnel.

As stated, students from the seventh and eighth grades were screened after written parental permission was obtained. No students were forced into being screened.

Techniques of screening were demonstrated in an area where mass screening could take place, such as a gymnasium, with children separated according to sex, stripped to underwear or bathing suit.

Children were screened standing, then bending forward with knees straight and feet symmetrically placed), and finally from the side.

Six specific visual findings were indicated to be signs of scoliosis: 1. uneven shoulders or scapulae, 2. uneven level of hips or iliac crests, 3. curved spine itself (patient erect), 4. rib hump (forward bending), 5. deviation of plumb line, and 6. round back.

The proposed screening procedure took 30 to 60 seconds per student. Thus an entire physical education class could easily be examined during one class period by school personnel.

For any child thought to have a positive finding, the parents were told that there was a possibility of a deformity and that a physician ought to be consulted (such as family physician, orthopaedist, surgeon, pediatrician, or Scoliosis Clinic). No attempt was made to solicit patients for our Scoliosis Clinic or any doctor, nor was any attempt made to coerce a family into obtaining follow-up care. The screening procedure and follow-up were strictly optional.

Records were kept of the screening. Later questionnaires were sent to parents of those found to have positive findings in order to evaluate the effectiveness of the program.

RESULTS

During the 1974-75 school year 7,699 students in Rhode Island were screened by the school personnel and our orthopaedic team. Of these students 160 were noted by examiners to have visual evidence of spinal deformity and were advised to see their doctors.

Follow-up information was obtained on 105 students (65 per cent). Of the 105 students who responded, 93 indicated that they had gone to a doctor, while 12 indicated that they did not obtain such an examination.

Of the 93 students who were examined by physicians, 60 (65 per cent) were noted to have a curve, while 33 were found to be negative. Of the 60 with deformities, treatment consisted of the following: 54 were observed or given exercises, five were given braces, and one required surgery after bracing.

DISCUSSION

This paper is presented, not as an accurate estimate of the incidence of scoliosis in Rhode Island, since it does not include cases previously diagnosed by private physicians, but rather as a report of our experience with the initial phase of an inexpensive method of early detection.

The incidence of scoliosis reported in the general population varies with the age studied and the methods used: Shands and Eisbert, 1.9 per cent; Wynne and Davies, 1.8 per cent; Kane and Mee, 0.33 per cent; Brooks (1972), 11.0 per cent; Brooks (1975), 13.6 per cent, and Lenstein, 8.5 per cent.

The method used in Rhode Island is one involving no additional expense to the state. It uses existing school facilities and school personnel during regular working hours. It is not proposed as a substitute to periodic physician examination, but rather as a supplement to it. It is a self-perpetuating program which can be repeated yearly in the schools with minimal supervision.

Similar programs involving screening of school children by non-physicians are being conducted in several other states, including California, Minnesota, Delaware, Connecticut, and New Hampshire.

There are three excellent informative movies concerned with scoliosis screening from Delaware, Minnesota, and Connecticut, which can be used in the instructional sessions with screening personnel. We use one of these in our instructional school techniques.

Screening is not without difficulties:

1. There is an incidence of under-diagnosis in the screening due to the inexperience of the examiners and failure to obtain total compliance from parents. The incidence of this failure is unknown.

(Continued on page 559)

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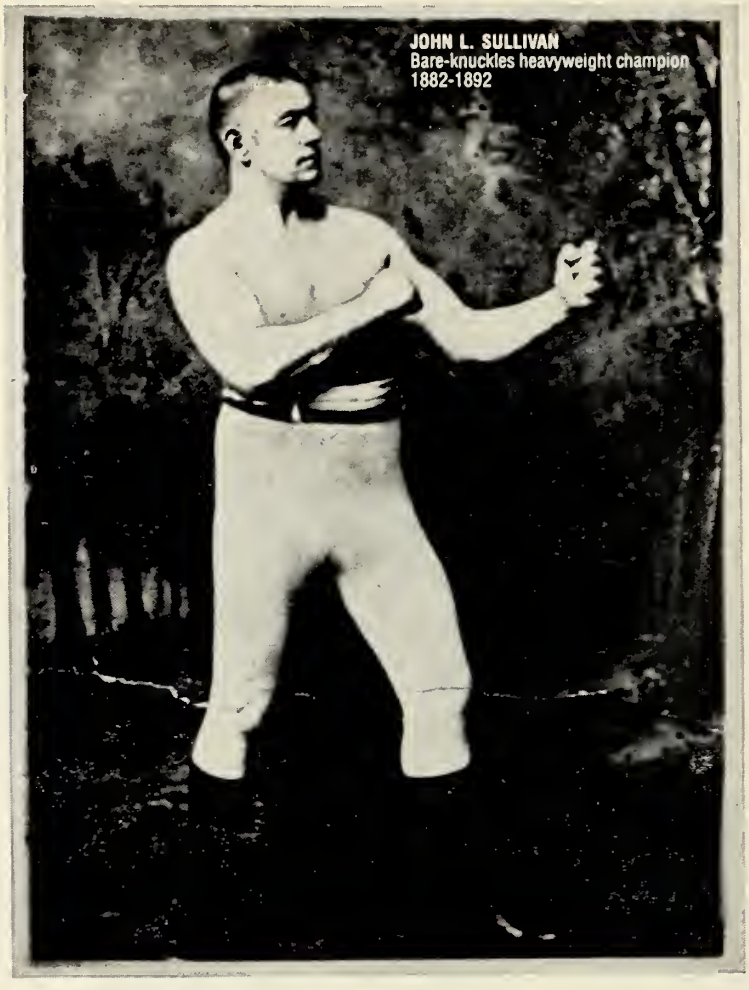

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Medico-Legal Aspects Of The Concept Of Brain Death: An Appraisal

Should Death Be Defined By Law, By Regulations, Or By Guidelines?

By Joan Dockery Faella, R.N., B.S.

To everything there is a season, and
a time to every purpose under the heaven:
a time to be born and a time to die.
Ecclesiastes 3:1

The mystery and wonderment of death has plagued man since ancient times. Through the centuries philosophers, theologians, poets, lawyers, and men of medicine have documented their theories, thoughts and feelings, and clinical findings in an attempt to explain what death is, how it takes place and methods of determining that it in fact has taken place. Today the phenomenon of death, like the phenomenon of life, still leaves man with many questions unanswered. With the advent of sophisticated mechanical devices which can hold a being in suspended animation and the increasing use of "harvested" organs for transplantation the "moment" of death has become a **cause célèbre.**

HISTORICAL

Traditionally death has been viewed as the permanent cessation of spontaneous heartbeat and respiration.[1] As the result of therapeutic progress in methods of reanimation, man has created states of "artificial life" that were unknown to medicine two decades ago. In this state of "partial life" the process of death has been held in abeyance.

A century ago Schopenhauer wrote: "Everything lingers for but a moment, and hastens on to death . . . . the life of our bodies is nothing but a constantly-prevented dying, an ever-postponed death."[2]

Scientifically death is now understood as a sequence of events, which take place microscopically and macroscopically during the process of dying. Ayd describes this process as "an orderly progression from clinical death to brain death, to biological death, to cellular death."[1] Death does not therefore take place at time "T." It is a continuum, and it is here that difficulty arises. For at what point in this continuum is there an irreversibility, a "point of no return" to a previous stage? Ayd refers to this point as "the twilight zone between clinical death and biological death when the brain is dying and vegetative life wanes." "Thus, the sequence of death is clinical death, death of the brain, death

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JOAN DOCKERY FAELLA, R.N., B.S., *Salve Regina College,* 1976.

of the body, and finally death of the components of the body."[1]

The concept of brain death was reported by Bichat in 1800. He introduced the concept of **coma dépasse** or the state of irreversible coma which precedes spontaneous cessation of heart beat in his **Recherches physiologiques sur la vie et la mort.**[3] Thus, the concept of brain death has been known for over a century. What is new, however, is that a person may be kept in this stage of dying (i.e. absence of spontaneous respiration and presence of spontaneous but reflexly unreactive heart beat) by an automatic pulmonary ventilator. If this respirator is discontinued, oxygenation of the brain subsequently ends, and brain death is inevitable. Clinical death is allowed to follow its onward course to brain death and death of the body.

SEMANTIC BATTLEGROUND

This frontier between life, artificial life, and death has become a battleground of semantics where the only true victim remains the patient. It is imperative that universally accepted criteria be established for diagnosing cerebral death. Recent literature describes two different states of cerebral death depending on the causal mechanism of the coma. In both states there is loss of cognitive function as well as complete loss of the functions of vegetative life. **In irreversible comas with death of the entire central nervous system patients are:**

> . . . comatose, immobile, arreflexic in every sense, hypotonic, lacking motor or vegetative response when stimulated, have incontinence of the sphincters, no swallowing reflex, mydriatic pupils and clear heart sounds with slightly above average rate and no response to various autonomic stimuli. Spontaneous respiration is completely absent. The patient becomes hypothermic and sensitive to the ambient temperature. No EEG can be recorded. At this stage protracted chemical and biological signs of progressive dissolution of different tissues can be seen. This is cerebral death with concomitant loss of brain-stem and spinal cord function.[3]

Patients in the state of **irreversible coma with brain death** may show signs of spinal reflex activity. "Reflexes of triple withdrawal may be seen, as well as the cremaster reflexes and pilo-erection. This is cerebral death with some preservation of the primitive function at lower levels of the central nervous system."[3] It must be emphasized that in both of these states the vegetative functions have been lost and it is precisely here, in my opinion, that the line of demarcation is drawn; for, in irreversible coma in which the major vegetative functions are retained, we are no longer in immediate control of the process of death (i.e. no respirator to be disconnected) and the essence of the question of death is now seen in light of a definition of euthanasia.

CRITERIA

Having focused in on the definition of cerebral death we can now explore the criteria for determining this state. In 1968 Doctor Henry K. Beecher of the Harvard Medical School chaired a committee to "Examine the Definition of Brain Death." This report, although criticized by some as too stringent, appears to have provided (in the light of the then existing scientific medical knowledge) a baseline from which universally accepted criteria for determining brain death can be derived. The following criteria were presented: 1) unreceptivity and unresponsitivity, 2) no movements or breathing, 3) no reflexes, usually including spinal reflexes, 4) flat electroencephalogram (EEG), 5) all of above repeated after 24 hours, and 6) the patient must not be hypothermic or under the influence of central nervous system depressants.[4]

The 22nd World Medical Assembly, which met in Sydney, Australia, in August 1968, incorporated much of the Harvard Committee Report in their "Declaration of Death." Their statement on death also placed emphasis on the fact that two physicians not of the transplant team should "decide that death exists."[3] Other sets of diagnostic criteria set forth by G. P. J. Alexandre of Belgium are as follows: 1) complete mydriasis, 2) complete absence of reflexes, 3) complete absence of spontaneous ventilatory support, 4) falling blood pressure necessitating increasing amounts of vasopressors, and 5) flat electroencephalogram.[5]. Revilliard added two criteria: the use of angiography to determine cerebral blood flow and the absence of tachycardia in a patient receiving a test injection

of atropine. The French Surgical Society utilized the above criteria in classifying patients in "come dépasse."[5]

In 1969 the Allegheny Ad Hoc Committee of Tissue Transplantation formulated the following protocol for the determination of death: 1) absence of all brain and spinal reflexes, 2) isoelectric EEG, 3) falling blood pressure without support of drugs or other means, 4) all of the above to have been present for at least two hours, 5) death is to be certified by two physicians other than the physician of a potential recipient.[5]

It becomes apparent that brain death can be diagnosed. It should also be apparent that these new criteria are meant to deal only in that small percentage of cases where the process of death is held in abeyance by the intervention of resuscitation machinery. This is not to say that a new or alternative definition of death is set forth by these criteria; but that a refined method of determining death has been established.[6] The nature of this refinement gives rise to the concept of brain death and subsequently the necessity of a medico-legal analysis of the situation.

LEGAL DEFINITION

In the United States the legal definition of death has evolved via court case precedent and has become an element of common law. The need to recognize the concept of brain death as a legal entity is well known and gaining recognition in many states. At present there are at least eight states that have enacted legislation establishing a statutory "definition of death": Kansas, Maryland, Virginia, California, Oregon, Georgia, New Mexico and Michigan.[7]

In March 1970 the state of Kansas legislated the first statute in the common-law world, "an Act relating to and defining death":

> A person will be considered medically and legally dead, if in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous respiratory and cardiac function and, because of the disease or condition which caused, directly or indirectly, these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation are considered hopeless; and, in this event, death will have occurred at the time these functions ceased; or
>
> A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous brain function; and if based on ordinary standards of medical practice, during reasonable attempts to either maintain or restore spontaneous circulatory or respiratory function in the absence of aforesaid brain function, it appears that further attempts at resuscitation or supportive maintenance will not succeed, death will have occurred at the time when these conditions first coincide. Death is to be pronounced before artificial means of supporting respiratory and circulatory function are terminated and before any vital organ is removed for purpose of transplantation.
>
> These alternative definitions of death are to be utilized for all purposes in this state, including the trials of civil and criminal cases, any laws to the contrary notwithstanding.[8]

As a potential model for other state legislatures it has been reviewed thoroughly. Criticism of the Act has been strong, however justified and has made statutory versus a common-law definition of death a topic for debate. Criticism of the Kansas Act is directed at several major items. Those most commonly cited are: the bias towards transplantation surgery, the "alternative definitions" of death, and the fact that the statute does not require two physicians to pronounce the death of a patient being maintained by resuscitative measures.[8] Capron and Kass offered an alternative to the Kansas statute and proposed the following:

> A person will be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous respiratory and circulatory functions. In the event that artificial means of support preclude a determination that these functions have ceased, a person will be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he

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Editorials

BURN THERAPY

The recent excellent symposium on Burn Therapy sponsored by the Allendale Insurance Company of Rhode Island and Brown University updated for the local profession the current status of burn management. The discussions covered control of infection, resuscitation, restoration of tissue and function, and rehabilitation.

Sulfamylon and silver sulfadiazine are still largely relied upon for control of infection, although other chemicals have had some limited trials. Removal of eschar follows conventional methods, but tangential removal guided by sensation in the burn has been used to some extent in appropriate cases. Excision of the burned area is effective, but is feasible only in burns of limited extent.

The most significant development in resuscitation has to do with the use of hypertonic solutions for intravenous fluid replacement. This concept has relevance to resuscitation in all forms of shock. The fluids lost in the burned or traumatized tissue are comprised primarily of water and sodium. It has been established that conventional Ringer's lactate solution provides insufficient sodium to compensate for the loss, resulting in acidosis. Large amounts of hypotonic solutions drown the burned tissue and, more significantly, the body as a whole. Plasma and detran appear not to have a role in the early replacement except as blood loss may be a factor.

The classical Evans burn formula and Blalock's colloid replacement have been superseded by the newer concept of hypertonic solutions, thus permitting the use of more reasonable quantities of fluid. Saline in large amounts is not useful because chloride loss is not important.

We have not come full circle, but almost.

HOSPITAL CARE EXPENDITURES

According to a recent report from the Rhode Island Department of Health, hospital care in the state in fiscal 1975 represented 44.2 per cent of all health care expenditures. This exceeded the national average by five per cent. In dollar amounts this represented a total of almost $272 million, or $293 for every man, woman, and child in the state, an increase of $55 million in the last two years alone.

Third party payers covered almost 89 per cent of the total of this total. Of this amount private payment sources accounted for 45 per cent and public payment sources for the rest.

These sharply escalating expenditures are reflected in the progressive rise in Blue Cross, insurance, and taxation rates. There is no current sign that the increasing costs and expenditures are abating.

In order to keep them within manageable limits every device must be brought into play. Health planning, actively pursued in this state, is important in limiting the expansion of bed capacity and the uncontrolled proliferation of expensive equipment and services.

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Much has been done in controlling length of hospital stay and in eliminating unnecessary admissions, but continuing and improved surveillance is essential. The use, overutilization, and abuse of ancillary services are a significant factor. While improvements in technology have undoubtedly saved lives and lessened morbidity, a critical analysis of the effectiveness and proper role of all manner of procedures must be carried out as a continuous process. Medicine can learn much from business in the matter of reappraisal of every element and discarding those that do not pay off to a significant degree.

The academic community has an important role in developing methods of reappraisal and of encouraging and educating the profession and public concerning unproved, discredited, and overutilized procedures and tests with a view to eliminating or limiting the use of them in accordance with their effectiveness. Residents must be taught the cost impact of everything they order. The PSROs have been entering the field in halting fashion. As of this writing only three hospitals in Rhode Island have attained a "delegated" status with respect to utilization review and quality of care surveillance. Analysis of hospital data appears not yet to have been initiated in Rhode Island. It is hoped that the involvement of PSRO in these matters will soon reach a significant level, as they were designed precisely for this purpose.

Guest Editorial

DIFFICULTIES ENCOUNTERED BY PHYSICIANS AND NURSES IN OBTAINING ADEQUATE HEALTH CARE FOR THEMSELVES

Difficulties physicians and nurses experience in receiving adequate health care seem to arise from two sources: 1) the inability of physicians or nurses to recognize the seriousness of their problems, and 2) the unwillingness of the doctors or nurses attending physicians to recognize the seriousness of the problems and initiate appropriate treatments. These may be by nature a bit vigorous or may in some way affect the "status" or good standing of the ill professionals.

What happens to the physician or nurse who is diagnosed by a colleague as having venereal disease? Will the physician in charge report it to the health department? Will a list of sexual contacts be obtained and lead to follow-up? Will he, in fact, keep a record of the episode?

What about the health professional who has just undergone surgery with specific written postoperative orders to turn, cough, and deep-breathe? Perhaps the patient denies to himself the possibility of developing pneumonia or resists carrying out orders which will be painful and uncomfortable. How strongly, when the professional protests, will he be encouraged and reminded to do the necessary exercises?

The physician or nurse who has drug, alcohol, or other psychiatric problems is often poorly served by his personal physician or others who think "things will work themselves out — it just takes a little time." This "hands off" approach continues to be prevalent even though statistics indicate a high suicide rate among drug and alcohol abusers and a highly disproportionate rate of suicides among physicians.

Physicians and nurses seem reluctant to confront their peers with psychiatric problems and recommend that they seek professional psychiatric guidance. Introducing the problem often leads to denial. The drug and alcohol abuser is quite skillful in using denial to convince both himself and others that no real problem exists.

Non-treatment of such problems certainly reinforces the abusers' belief that nothing is wrong. Eventually the problems will catch

up with them as they are progressive in nature. By that time the problem has probably given rise to family, occupational, and financial difficulties. At this point the sick physician or nurse may have no alternative but to seek therapy or hospitalization.

What happens when a physician or nurse is hospitalized for psychiatric illness? Usually feelings of unease are evoked, so that the staff may tend to avoid spending much time with them. For reasons of "confidentiality" the patient may be admitted to a medical ward and given a rather innocuous diagnosis. If it is a large psychiatric hospital, the patient may be admitted to a geriatric ward to assure him privacy, even when there are special facilities available for the alcoholic and drug abuser. Is this really a favor to the patient or is it in fact just another tactic to reinforce his denial?

The physician or nurse patient often knows how to "speak the language" and thus may be able to manipulate the situation so as to avoid developing motivation to change. This can lead to special dinners out, car privileges, late privileges, and, when the attending physician really wants to be a party to the denial system, a cocktail order before dinner to "improve the appetite." Such behavior can reinforce the ever-present readiness to use denial as a defense. It can also lead to additional and more frequent hospitalizations.

Confrontation and avoiding manipulation is difficult, but in the long run it will be of most benefit to the professional as patient. If the patient sees no reason to give up his symptoms, the disease process, especially in alcohol and drug abuse, is often terminal.

Physicians should seriously consider the problem as it relates to the morals and ethics of their own practices. Much more education in these critical matters is essential.

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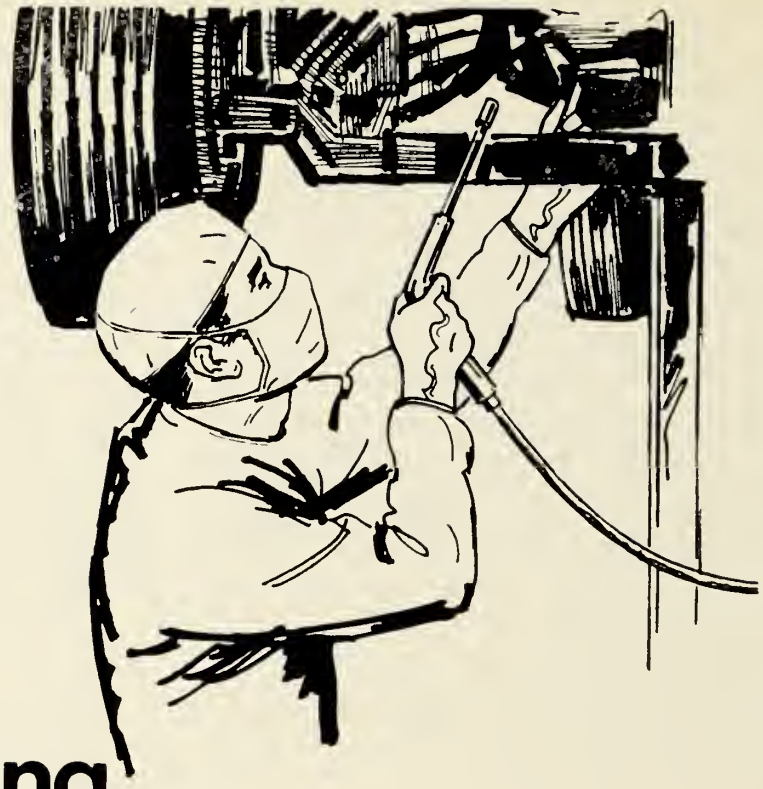

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(Continued from Page 536)

control families and ways in which marriage partners behave in their cultural roles, presupposing that any group of people is undoubtedly something more than the sum of the people who belong to it. Regarding alcoholic marriages, the sociological perspective is more concerned with how the marital pair reacts under specific social situations and transition states rather than degrees of normality and abnormality manifested by an individual spouse. If a group shows common neurotic symptoms, the sociologist will look for similar experiences of external stress in contrast to the psychoanalytically-oriented clinicians who will look for similar intrapsychic conflicts.

A psychoanalytic approach may be compared to a sociological one in the following way. Freudian theory considers the core of the spouse's personality structure to be essentially completed by about seven years of age (the end of the "phallic" psychosexual period), with all later experiences (including marriage) assumed to be strongly influenced by the intrapsychic realities and earlier developmental periods. In contrast, the sociological scheme suggests that the clinical manifestations of the spouse of the alcoholic are mostly the result of a variety of current **external** factors such as cultural attitudes towards alcoholism and specific familial and environmental settings.

Until the 1950s reports on spouses focused on the psychopathology or personality of the spouse as she existed prior to or separate from her husband's alcoholism. One notable exception was that of Mowrer[23], who in 1940 compared 25 wives of alcoholics to "normal" wives. A careful reading of Mowrer's paper reveals her impression that the attitude and behavior of the wives in the experimental group changed in response to the husband's behavior. Mowrer was one of the first partially to explain the clinical picture of the wife in terms of the situational stress of liv-

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ing with an alcoholic; but Mowrer was not explicit, and she did not publish further reports on these innovative concepts.

The literature revealed little interest in expanding on Mowrer's ideas until Jackson objected to the preponderance of DPH literature which had "advanced to the point that the alcoholic emerges as the innocent victim of his family" (p. 472).[24] Jackson[24-27] wrote the landmark papers on the sociological **Stress Theory** which explains the psychological profile of the wife as primarily a manifestation of adjusting to the prolonged and cumulative crisis of living with an alcoholic. (A "crisis" can be defined as a condition of acute stress occurring when someone's habitual ways of coping with problems are no longer sufficient and new solutions are required.) This sociological approach was a momentous conceptual leap from the past alcoholic marriage literature and was quite obviously in direct contrast to the **Decompensation Theory.**

Jackson's revolutionary formulations resulted from more than three years of scrutinizing Al-Anon members. She attended hundreds of meetings and made verbatim recordings of each gathering or interview in an attempt to identify or describe the specific patterns of family reaction and adjustment to an alcoholic husband and father. Jackson concluded that the alcoholic's family of procreation goes through an adjustment experience that involves crisis, followed by disorganization, and then recovery and reorganization.

Orford[28] elegantly exemplifies the sociological approach to the alcoholic marriage. He cites examples of investigations into the family's coping with burdens of economic depression and unemployment, mental illness, war separation and reunion, and bereavement, as he supports the view that, although each crisis has its own unique properties of onset, degrees of impairment, and tendencies to engender externalization or internalization of blame, there is nothing very substantively different about alcoholics and people who marry them as compared to other marital pairs adjusting to severe stress.

Well-controlled empirical research supports the general concept that the psychopathology seen in spouses of alcoholics is as much the

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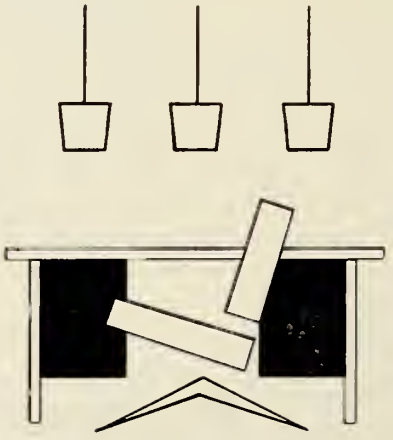

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result of the stress of living with alcoholism in the family as of intrapsychic and personality factors that preceded the uncontrolled drinking[29-32], and may be more so.

DISCUSSION

All DPH literature focuses on subjective descriptions of the personality of the spouse. Psychoanalytically-oriented DPH theorists adopt a one-sided monadic perspective in that they regard the behavior of the spouse as an expression of her intrapsychic variables. Although a great deal is postulated about the impact of the nonalcoholic member of the marital pair, the DPH authors say very little about the alcoholic's impact on the nonalcoholic member of the marriage. The reasons for this omission have never been clear; but, since the creative genius of Freud has profoundly influenced the DPH literature, perhaps the following brief but very revealing quotation will help the reader to understand this bias: "As regards the treatment of their (patients') relatives, I must confess myself utterly at a loss" (p. 120).[33]

Although the DPH literature is probably a tautology of little clinical predictive value, DPH proponents had a valuable role in the conceptualization of the alcoholic marriage. DPH theorists were the first to propose that the spouse is not necessarily a helpless victim of circumstance. Ironically, psychoanalysis is frequently criticized for being too monadic and intrapsychically oriented, when in fact it was the psychoanalytically-oriented DPH theorists and clinicians who first introduced the concept that the alcohol misuse is not solely confined within the person of the alcoholic and that the spouse may unconsciously play a part in the onset and maintenance of the alcoholic's drinking problem.

It should be emphasized that, although there is no strong empirical evidence validating the DPH, this by no means invalidates the profound psychoanalytic principles from which the DPH evolved. The necessity and legitimacy of the psychoanalytic concepts of the psychosexual stages, psychic determinism, unconscious, and defense mechanisms must stand or fall on their own and should not be incriminated by association with deduced, oversimplified, and dubious hypotheses (such as the DPH) that have evolved from them.

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Regarding the Decompensation Hypothesis, it is illogical to draw the sweeping conclusion that a spouse has an unconscious need to be married to a problem drinker until it can be first proven that the spouse knew how to and could cure the alcoholism, but consciously or unconsciously would not or could not apply the remedy. However, there is not a definitive cure for alcoholism; and so there is one more reason that the Decompensation Hypothesis remains a weak theory.

Sociologists have helped put to rest the notion that people who marry alcoholics are abnormal before the marriage. Until proven otherwise, the facts are that the only thing the spouses of alcoholics have in common is that they married alcoholics or potential alcoholics. Also, the Stress Theory proponents can take much of the credit for the idea that many factors go into the choice of an alcoholic mate, and drinking patterns are only one of a complex system of psychological, environmental, and sociocultural variables responsible for the marital misery that follows.

In conclusion, although the sociologists have been successful in establishing the importance of social role adjustments, it seems that Margaret Bailey's penetrating suggestion 15 years ago is still applicable:

> Research on alcoholism and the family has suffered from severe serious defects not the least of which has been failure to achieve an integrated psychosocial approach. The psychiatric focus on neurotic interaction and the sociological approach through Stress Theory have proceeded with a minimum of cross-fertilization. If the psychiatrists have failed to consider the role adaptations which are thrust upon the spouse by the very nature of his illness and the cultural attitudes which influence adjustment to stress, so too have the sociologists largely ignored personality disturbance as a variable. Research which blends the sociological and psychodynamic factor in a single conceptual structure is long overdue in this field (p. 91).[34]

SUMMARY

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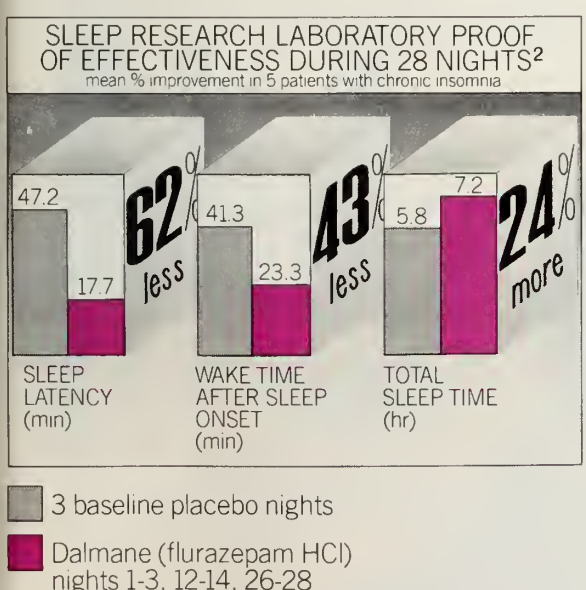

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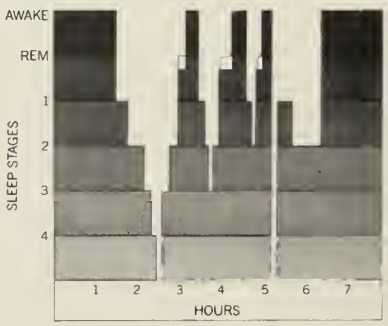

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marriage" (a marriage between an alcoholic and nonalcoholic) is increasing, much of it represents divergent theoretical viewpoints. This paper has reviewed and compared two theoretical conceptualizations of the alcoholic marriage: 1. the psychoanalytic perspective, represented by the Disturbed Personality Hypothesis and Decompensation Theory, and 2. the sociological perspective, illustrated by the Stress Theory.

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SCHOOL SCREENING FOR SPINAL DEFORMITIES

(Continued from page 541)

2. Over-diagnosis was noted in 35 per cent of cases followed. This can be a problem in unnecessarily alarming parents and subjecting families to the expense of needless physician examinations. However, there are false positives in any screening program. Certainly prevention of surgery and the tremendous expense in money and pain, as well as avoidance of associated risks, outweighs the unfavorable effects of over-diagnosis.

Response from families does not indicate any real problem in this area. Many parents reported being delighted with the idea of screening, while only one complained of having to pay for x-ray studies and specialist examinations in his normal child.

Spencer Klaw in his book **The Great American Medicine Show** states that there are two to three million unnecessary operations per year in the United States. The medical profession is under increasing attack for its lack of concern for preventive medicine and for doing unnecessary surgery. Scoliosis screening is advocated as one answer to our critics, but more importantly as a means of helping our patients avoid unnecessary pain and permanent deformity.

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MEDICO-LEGAL ASPECTS OF THE CONCEPT OF BRAIN DEATH

(Continued from Page 547)

has experienced an irreversible cessation of spontaneous brain functions. Death will have occurred at the time when the relevant functions ceased.[9]

The House of Delegates of the AMA adopted the following resolution:

Because of the complex legal ramifications, the House of Delegates at the Clinical Convention adopted the policy position that the present statutory definition of death is not desirable or necessary. State Medical Associations are to urge their legislators to postpone enactment of definition of death statutes. [10]

The Harvard Ad Hoc Committee suggested that as long as physicians come to an agreement on the criteria for determining brain death, "No statutory change in the law should be necessary since the law treats this question essentially as one of fact to be determined by physicians."[4]

An appraisal of the Michigan statute, signed into law on July 14, 1975, defines it as "excellent, complete and to the point."[7] The Act is as follows:

8b. (1) A person will be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice in the community, there is the irreversible cessation of spontaneous respiration and circulatory functions. If artificial means of support preclude a determination that these functions have ceased, a person will be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice in the community, there is the irreversible cessation of spontaneous brain functions. Death will have occurred at the time when the relevant functions ceased.

(2) Death is to be pronounced before artificial means of supporting respiratory and circulatory functions are terminated.

(3) The means of determining death in Subsection (1) shall be used for all purposes in this state, including the trials of civil and criminal cases.[7]

The Michigan statute does appear to be

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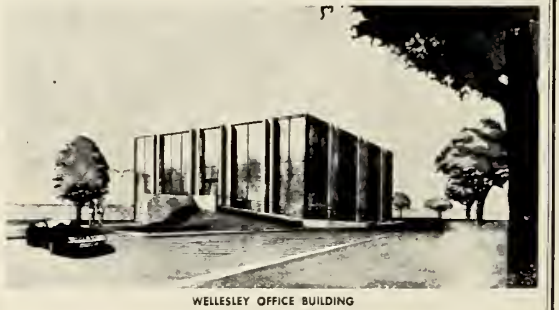
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complete. However, in this author's opinion the lack of a requirement that two physicians not of the transplant team (if transplantation is to take place) determine death leaves this statute remiss on a major point.

According to Mills the "great stumbling block has been the necessity to feel that a brain-death statute must be an explicit definition; whereas, the only need is to establish the legality of the concept of brain death."[11] This concept, according to Mills, is contained in the California brain death statute signed into law on September 27, 1974. It states:

> A person shall be pronounced dead if it is determined by a physician that the person has suffered a total and irreversible cessation of brain function. There shall be independent confirmation of the death by another physician.
>
> Nothing in this chapter shall prohibit a physician from using other usual and customary procedures for determining death as the exclusive basis for pronouncing a person dead.
>
> When a part of the donor is used for direct transplantation pursuant to the Uniform Anatomical Gift Act and the death of the donor is determined by determining that the person has suffered a total and irreversible cessation of brain function, there shall be an independent confirmation of the death by another physician. Neither the physician making the determination of death . . . nor the physician making the independent confirmation shall participate in the procedures for removing or transplanting a part.
>
> Complete patient medical records required of a health facility pursuant to regulations adopted by the department . . . shall be kept, maintained, and preserved with respect to the requirements of this chapter when a person is pronounced dead by determining that the person has suffered a total and irreversible cessation of brain function.[12]

This statute makes it mandatory for physicians to understand the currently acceptable criteria to establish brain death. The California statute does not include these criteria, thereby leaving flexibility with respect to further developments in scientific knowledge. Mills advocates "education of the medical profession . . . through professional articles and meetings" to facilitate the establishment of professional guidelines.[12] The clarity of this statute does not leave it open to litigation. It appears to offer terminology that will assure public confidence and gives physicians the confidence that brain death is a legal entity.

Earlier the question of euthanasia was mentioned, and again this author wishes to emphasize that an Act Defining Death is in answer to "when is a person dead?" and does not infer "when should a dying person be allowed to die?" thereby keeping the two concepts separate and apart.[9]

WITHER RHODE ISLAND?

The State of Rhode Island has not yet decided which path to take: statutory, guidelines, or regulations in determining death. In January of 1976 State Representative Anthony Carcieri introduced in the House of Representatives "an Act Defining Death." This Act was in essence the same as the

(Continued on next page)

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California statute. The House Judiciary Committee reviewed the Act, but it died in committee at the close of the 1976 General Assembly session.

On January 6, 1976, the **Evening Bulletin** (Providence, RI) reported the formation of a 10-member State Medical Examiners Commission to study the issues surrounding the determination of death in the State of Rhode Island. Review of the minutes of a commission meeting held early in 1976 reveals that a "Proposal regarding death and dying" had been submitted by Doctor Michael E. Scala. The concept of "regulations" was discussed (the commission appears to lean in that direction rather than favor a statute) and the question of "who would interpret the regulations or violations of them" is under consideration.[13]

The decision is certainly not an easy one to arrive at. In the best interests of the individual it is hoped that all aspects of the problem will be reviewed and ultimately the best solution will be forthcoming — A solution that will instill public confidence in the protection of patients' rights and provide the physician with a degree of confidence that the concept of brain death is recognized as a legal entity.

Death be not proud, though some have called thee

Mighty and dreadful, for thou are not so; . . .

One short sleep past, we wake eternally

And death shall be no more; death, thou shalt die.

John Donne

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*Complete list of references may be obtained from the Rhode Island Medical Society Library or from the author.

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